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ORIGINAL LECTURES.

PREATAXIC TABES DORSALIS.

A Clinical Lecture delivered during the summer session of the McGill Medical Faculty.

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GENTLEMEN: In locomotor ataxia we may, for clinical convenience, recognize three stages, the *preataxic*, in which, without any incoördination, there are certain other well-defined and characteristic symptoms; the *ataxic*, in which the disordered muscular movements predominate; and a final *pseudo-paralytic* stage, in which the patient is a helpless cripple. The man before you is an interesting illustration of the early, or preataxic stage. You see, as he walks around the arena, that the gait is normal, and you certainly would not suppose from his appearance that he was afflicted with this disease. From the fact that locomotor ataxia may exist for years without *ataxia*, the name *tabes dorsalis*, given by Romberg, is preferable, or posterior spinal sclerosis, which indicates the location and nature of the lesion. When we consider that about fifty per cent. of tabetic patients are not ataxic¹ the name in common use is misleading, and gives undue prominence to a symptom which is often absent.

The clinical record of this patient is as follows: Samuel S., of Sherbrooke, Que., aged 43, Canadian, a cabinetmaker by trade, but for some years (12) past a millwright, came to the hospital to be treated for failure of eyesight. Nothing special in the family history. Has been married nineteen years; two children living, three dead; one, a year old, had a rash on the body, the other two were still-born. Had gonorrhœa; can get no history of chancre. Formerly took spirits freely, but has been temperate for some years. Has used tobacco to excess, also opium. In his occupation as millwright has been much exposed to wet and cold, particularly when working in the flumes, and on several occasions has been for hours in ice-cold water. For nearly four years he has had what he calls rheumatic pains in the legs, at irregular intervals; sometimes six months would elapse, and at others two or three attacks would occur in a couple of weeks. He describes the pains as intense, coming on with great rapidity, localized often in spots not more than an inch or two in extent, which are acutely sensitive when they are present; duration brief, two or three seconds, and then they pass away as quick as they came, to return again in a few minutes. Sometimes they have been so bad that he has not slept; in his own words, "they would just give me breathing spells, and then I had to clinch my teeth to bear the next pain." No tingling or pins and needles. For about a year has noticed that the eyesight was failing; may have been present for a longer time, but he was not conscious of it.

Examination: Patient is a slight, dark man, fairly nourished. Gait is unaffected. Muscles moderately developed. Sensation in legs good; not retarded. Pupils are contracted, round, measure 3.5 mm. They do not react to light (reflex immobility, reflex irido-

plegia). Act during accommodation and in associated movements when eyes move upward and inward. Dr. Buller tested the vision, and reports $\frac{1}{100}$ with right eye and $\frac{1}{100}$ with left eye. Considerable limitation of field of vision in upper and outer parts. Optic nerves bluish-white in color; margins well defined; all the minute vessels of the disk are gone, only the larger trunks remain, and they, too, are diminished in size. Color-perception for red and yellow good; he thought the green was dark-brown, almost black. The patellar tendon-reflex is absent. Plantar, cremasteric, and abdominal reflexes are present.

The eye symptoms, lightning pains, and absence of knee-jerk, are the chief features presented by this case, and together they are amply sufficient to establish the diagnosis of *tabes dorsalis*. Let us consider these symptoms a little more closely, and, first, the ocular phenomena, which are among the earliest and most remarkable nerve disturbances in the disease, and of great diagnostic importance. When I place the patient before the window, shade his eyes with my hand, and then suddenly expose them to the bright light, no change takes place in the diameter of the pupils. Tested with a stronger light, the same peculiarity is noted; the pupils are immobile and do not react to the stimulus. If now, after looking at my fingers at eighteen inches he then directs his vision into the distance, the pupils dilate with the relaxation of accommodation, and contract again when he looks at a near object. While not responding to the stimulus of light, they are active during accommodation. This reflex immobility of the pupil, first described by Dr. Argyl Robertson, and sometimes called after him, is present in a large proportion of cases of *tabes*. In 84 cases of Prof. Erb it was noted absolutely in 59, and diminished in 12. Of these 71 cases, 43 were in the preataxic stage of the disease. In Gower's address, just to hand, on eye symptoms in spinal disease, the light reflex is stated to have been lost in 48 out of 72 cases. Usually the reflex immobility is associated with myosis, which exists in this man in a moderate degree. The only other affection in which this sign has been specially noted is progressive paresis of the insane. Not only is the power of reflex contraction of the pupils lost, but reflex dilatation may also be suspended. If you stimulate strongly the skin of a healthy person, a slow reflex dilatation of the pupils takes place, but in the majority of cases of *tabes* this does not occur. We could not get this reflex on strong galvanic stimulation of the skin of the neck and shoulder of this man. The precise locality of the lesion which causes these early pupil symptoms is unknown, but if you consult the diagram of the pupil centres, which you have in your physiology notes of last winter, you will see that, as Erb says, the local degeneration causing the loss of light reflex must be somewhere in the pathway between the centres of the optic and the third nerves.

The chief complaint of this patient is a steadily advancing loss of sight, which ophthalmoscopic examination shows to be due to atrophy of the optic nerve. Many of you have had an opportunity of examining the disks in the ophthalmoscope room, and studying the characters of the sclerotic atrophy—the blue-gray color, the flatness of the disks, the absence of small vessels, and their sharp distinct outlines. With no other spinal affection is atrophy of the optic nerves so frequently associated. It usually begins

¹ Erb, in eighty-four cases, mentions that forty-three were in the initial stage and presented no ataxia.

early, before the second stage of the disease is reached, and the patient may be quite blind by the time the ataxia develops, or, indeed, before there is a suspicion of tabes. The atrophy is progressive, and ultimately, though it may be after the lapse of months or even years, total blindness results.

Color-perception is often disturbed; most frequently patients lose the power of distinguishing red and green, while that for yellow and blue may be retained. This man says that green appears to him dark-brown or almost black. His perception of red, yellow, or blue is good. There are other eye symptoms, not present in this instance, which may puzzle you not a little, if unaware of their connection with tabes. I refer to the local palsies of the external eye muscles, and the production of squint, double vision, and ptosis. These, too, are often pretaxic symptoms and are quite as common as those which we have considered. Double vision, with or without positive squint, is often a most troublesome feature, and the patient may be for months under the care of an oculist, or, indeed, have an operation performed for strabismus. Some years ago, I knew a gentleman who had intractable ptosis and squint without any other special symptoms. He has since become ataxic. I have at present under observation a gentleman who had external strabismus and double vision for six or seven months, and now has severe pains, bladder trouble, and absence of the patellar reflex. In adult men, the occurrence of ptosis, squint, or double vision, should suggest to you the possibility of early tabes and the necessity of examining for other signs.

Besides the failure of vision, the patient has but one complaint—the terrible pains which have attacked him at times during the past four years. The account which I read to you, is a typical description of the so-called lightning or electric pains of tabes. They are usually mistaken for rheumatic pains, and affect chiefly the lower extremities, sometimes the back and sides, rarely the arms. They vary greatly in intensity and in the frequency of their occurrence; weeks or months may elapse between attacks. The suddenness of their onset, the rapid darting or flashing character, is well expressed in the terms electric, fulgurating, or lightning. They fly about from place to place, and when a bad bout comes the patient may cry out with each pain, and they may recur so rapidly that, as our patient says, there are only breathing spells between them and just time to clinch the teeth to bear the next stab. The skin over the site of the pain may be intensely sensitive—hyperesthetic. Occasionally the pains are dull, heavy, and dragging, not sharp and stabbing; this, however, is quite exceptional. Very few, not five per cent., of ataxic patients escape these torments. One other important symptom is presented by this man; when I strike the patellar tendon of the crossed leg with the rim of the stethoscope, there is no response in muscular contraction of the quadriceps extensor, and the leg is not jerked up as in health. The knee-jerk or patellar tendon-reflex is absent, and since Prof. Westphal called attention to this sign, it has come to be regarded as of great diagnostic value in tabes. Exceptionally, the knee-jerk is absent in persons in whom there can be no suspicion of posterior spinal sclerosis; but absence of it in conjunction with lightning pains or any of the ocular phenomena, may be regarded as proof positive of the existence of the disease. Lest you may think that rather a strong statement, let me read you a paragraph from a lecture by Dr. Buzzard, whose work on *Diseases of the Nervous System* I would specially commend to you as embodying the rich clinical experience of an unusually acute observer. He says, "It is of much importance to remember that the two symptoms—on the subjec-

tive side, pains of the character described, and, on the objective side, absence of the patellar tendon-reflex (with a fairly normal condition of the quadriceps extensor muscle)—are the most constant, as they are probably the earliest of all. My belief is that if we meet a patient who exhibits them both, we do not need the presence of any other in order to form a diagnosis of tabes dorsalis." The patellar tendon-reflex is absent in about ninety-six per cent. of all cases.

Among other symptoms which may be present in the first stage are localized regions of anaesthesia, numbness, pins and needles, but more common with pronounced ataxia; attacks of obstinate vomiting occurring without obvious cause, the *crises gastriques* of Charcot, and vesical and rectal troubles. Disturbances in the sexual function are common in tabes; sometimes there is at the onset satyriasis, usually as the disease advances, there is loss of sexual vigor, and finally impotence. In connection with this, I may mention to you an interesting case which I saw today: A gentleman from near Chatham, Ont., has gradually become impotent, and the question has been raised by an eminent American specialist whether the loss of sexual power was not an early tabetic symptom. The man is powerfully built, accustomed to out-door life, had syphilis about fourteen years ago, and has abused his sexual powers to excess. For three months he has been on a strict anti-syphilitic treatment without any benefit, and he is now practically impotent. The testicles are soft and flabby, and there is a large varicocele. There are none of the tabetic symptoms presented by the case we have just considered, though he does complain of dragging pains at times in the legs. In rare instances, impotence is an early, perhaps initial symptom in tabes, but whether it is so or not, in this instance, time alone will tell. Dr. Bray of Chatham, under whose care he is, will doubtless know in a few years. Possibly the varicocele may have something to do with his trouble.

You doubtless are aware that much discussion has taken place lately regarding the cause of tabes, and many facts have been brought forward by Fournier, Erb, Gowers, and others to show the close connection between it and syphilis. Statistics prove that considerably over fifty per cent. of all tabetics have had syphilis,¹ but whether this is simply a matter of association, or whether a definite causal relationship exists, is not yet clear. You should be especially careful in obtaining the history of a patient to ascertain if he has had syphilis, as the treatment may be thereby considerably influenced. There are some indeed who regard the occurrence of tabes as in itself a proof of the existence of syphilis, but this is an extreme view and not borne out by facts. In the case you have just seen we can obtain no positive evidence of infection; true, he has been *in the way of it*, having had gonorrhœa, and the death of three children, one with a general rash, is a suspicious circumstance, but he is an intelligent man, anxious to give all details and he seems quite certain that he never had a sore on his penis or any secondary manifestations. It is astonishing how reluctant some men are to acknowledge the pox. Even an intelligent physician will conceal the fact from his best friend and deceive him grossly, as in the following instance. A few years ago, after a medical dinner in London, the conversation turned on this very subject, tabes and syphilis, and one gentleman was very positive about the invariable association of the two. Our host stated that he had under observation a medical man, the subject of tabes, who offered a satisfactory refutation of

¹ In the Vienna Correspondence of *Canada Medical and Surgical Journal*, Dr. James Stewart states that Dr. Weiss found only ten syphilitics in one hundred cases of tabes.

this view as he had never had syphilis. I ascertained the name of the surgeon referred to, and to my surprise found that it was a man with whom I had been acquainted on the continent, and who at the time was under treatment for secondaries.

Exposure and cold, especially with muscular fatigue, are believed to be potent influences in the etiology of tabes, and in this connection it is worthy of note that our patient has been much exposed to cold and wet when working at his trade as millwright, often up to his waist in ice-cold water.

From the fact that he has had lightning pains for over four years you may gather that even the initial stage may be very prolonged. Tabes is perhaps the most chronic of all nervous affections, and in individual cases it is impossible to predict what the course will be. This patient may not become *ataxic* for years; unfortunately for him, the optic atrophy will almost certainly be progressive and lead to total blindness. Occasionally the course of the disease is very rapid. I had arranged to show you another case to-day, a pronounced *ataxic*, with the characteristic gait, etc., but he sent word that he was too unwell to come. This man has had syphilis, has suffered from cerebral manifestations, and now for nearly two years has presented symptoms of tabes, the incoördination being now so great that he moves about with very great difficulty. When once established, the disease is, as a rule, hopelessly incurable; it is impossible to restore sclerotic nerve-tissue to the normal state. The most we can hope to do is to arrest the progress and alleviate some of the more distressing symptoms. Where there is a decidedly syphilitic history, as in the case I just referred to, a thorough course of mercury and iodide of potash should be tried. It has done him no good, but there are instances on record in which such a plan has been of material benefit. Of course, the remedies in vogue in the treatment of the disease are legion. At present great confidence is placed in nitrate of silver, in quarter of a grain doses three times a day, continued for months, intermitting every fifth week to prevent deposition of the salt and staining of the skin. It seems to relieve the pains, and in some cases the incoördination has disappeared during its employment. We shall put this patient on a prolonged course of the silver, and order galvanism to the spine. Rest is an important element in the treatment, but in many instances, as in this one, impossible to procure. When the electric pains are severe, friction (massage) is beneficial and in very bad spells, hypodermic injections of morphia.

I have no belief in the restitution by therapeutic means of a sclerotic tract in the spinal cord; as well might we hope for restitution of a group of sclerotic (cirrhotic) liver lobules. Curiously enough, even when decided amelioration does take place or a cure is apparently effected, the lesion in the posterior columns may remain unchanged. In one of the recent numbers of the *Archiv für Psych.*, Dr. Schultze reports a remarkable case which illustrates this. A patient of Dr. Erbs' was apparently cured, the ataxia and pains disappeared; absence of patellar reflex and slight vesical trouble alone remained. Twelve years after the appearance of the symptoms of ataxia, and eight after their disappearance, he died of poisoning. At the autopsy the posterior sclerosis was well marked in the lumbar section of the cord, and there was degeneration of the posterior root-zones in the dorsal and cervical regions.

The opinion is gaining ground that locomotor ataxia is not simply posterior spinal sclerosis, but a widespread affection of the sensory nerves; and taking this view the various peripheral nerve changes, the optic atrophy, which is so common, the occasional affection

of the auditory, and the degeneration of the cutaneous nerves which has been described—all come in as part of the general affection.

ORIGINAL ARTICLES.

DEATH FOLLOWING THE EXTERNAL USE OF POWDERED BORACIC ACID.

Reported by L. D. BROSE, M.D., Ph.D.,

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A. B., American, at. 31 years, admitted to City Hospital May 1st, for a large open sore on the outer surface of the right thigh. He stated that one year and a half ago he entered St. Mary's Hospital with an extensive cellulitis, involving the right leg and thigh, and that Dr. A. M. Owen had made an incision extending from just above the external malleolus to within a short distance of the great trochanter. The wound in the leg healed, but that in the thigh only partially closed, and finally he, of his own accord, left the house. He was next treated at the Poor Asylum, but left that institution before receiving any marked benefit.

After his admission to the City Hospital the hot iron was freely applied to the sore, followed by a poultice, and subsequently, for three days, a lotion of potassio-tartrate of iron. This was then discontinued, and replaced by the powdered boric acid, frequently dusted on, and renewed during the day. The next four days the wound improved rapidly, the granulations becoming healthy and very numerous. May 11th, just five days since the use of the acid, he complained to the resident, Dr. Hilsmeyer, of diarrhoea, when he administered pil. hydrarg., followed by an astringent. This seemed to check his bowels, and the potassio-tartrate of iron, which he had also been taking internally, was discontinued. The following day, the diarrhoea returning, he was given pulv. rhei, followed by tr. krameria. His mind at this time was clear, temperature normal, with slight frequency of pulse. This failed to check his diarrhoea, and the patient began to vomit his food. The granulations also assumed a sluggish appearance, and the boracic acid was discontinued for the iron lotion. The diarrhoea was finally controlled by an enema of tr. opii and argenti nitras, but only at the expense of increasing the vomiting, and large quantities of water and mucus were now ejected from the stomach whenever the patient made the slightest attempt to swallow either a solid or liquid. Carbolic acid, calomel gr. $\frac{1}{2}$, hydrocyanic acid, sodii bicarb., all in turn, failed to influence his stomach. May 15th, the following day after discontinuing the boric acid, the temperature in the mouth was 97.4° , pulse 105, intellect clear, and the patient complained only of great weakness. The eyes had a peculiar staring appearance, while the body was bathed in a cold, clammy perspiration. On being asked, he said that for several days past he had passed his water several times during the night, and this upon examination proved to be intensely acid, high colored, and without a trace of albumen.

Hypodermics of morphia and atropia were resorted to, which controlled an annoying hiccough and par-

tially relieved the vomiting. May 16th, his temperature at 2 P.M. was 96° in the mouth, 98° in the rectum; tongue red, pointed, but moist; pulse 140, and almost suppression of the urine, which was drawn off by the catheter. A stimulating enema of whiskey and digitalis was given, after which the bowels, which had remained confined for several days, moved once. During the night of the 16th he vomited blood repeatedly, the pulse became very rapid and feeble, notwithstanding repeated subcutaneous injections of morphia and atropia, and death occurred on the morning of the 17th, at six o'clock, just three days since the last application of the boracic acid. At the autopsy, which was commenced by myself but completed by Dr. R. M. P. Ames, of the U. S. Marine-Hospital Service, the following notes were made: Lungs normal. Heart normal in appearance. The right ventricle contained a large clot, portions of which were ante-mortem in character. No valvular lesions. Stomach presented evidence of congestion, and the mucous membrane several spots of erosion. Intestines deeply congested and inflamed. Liver enlarged, especially the right lobe, which was much congested and softened. No reaction to tr. iodine. Gall-bladder greatly distended with bile. Spleen enlarged, and the pulp highly inflamed. Kidneys normal in size, and the capsule readily stripped off. Cortex on section of a yellowish hue.

Microscopical examination of liver and kidney: The former presented great swelling of the liver cells, which had lost their polygonal character, become very granular, and contained an increased number of nuclei. The interstitial tissue in the region of the hepatic artery and portal vein had undergone proliferation, and this, along with the wandered-in leucocytes, had in one instance progressed almost to abscess formation. Kidneys: cells highly granular and swollen. In many of the tubules a granular exudation is observed, evidently derived from the cells, and not due to their breaking down, as the cells themselves are seen occupying their normal relation to the basement membrane. Tube-casts are observed in some of the tubes that have been cut transversely. There is no appreciable interstitial involvement. In both the liver and kidney sections much bile pigment is abundantly scattered throughout the tissues.

As a summary, the prominent symptoms may be mentioned: Great gastro-intestinal inflammation, giving rise to obstinate vomiting and purging; a clear intellect up to the last, along with staring eyes, a very rapid and feeble pulse, low temperature, and intense acidity of the urine. Unfortunately the reaction of the blood, saliva, and bile was not taken.

A CONTRIBUTION TO THE PATHOLOGY OF CHOREA.

CHOREA OF SEVEN YEARS' DURATION; AUTOPSY;
LESIONS OF BRAIN, CORD, AND HEART;
MICROSCOPIC INVESTIGATION.

BY HENRY J. BERKLEY, M.D.,
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THOUGH chorea has been classed by the latest writers as a functional trouble, observations have been recorded in which there were palpable lesions

of brain and cord, not unlike the present one; and now that Charcot and others have discovered well-marked organic disease in long-standing cases of hysteria, would it be unreasonable to expect to meet it in chorea St. Viti, a state most evidently due to some irritation of the nervous centres. The present example, deficient as it is in several points of the necropsy, may help somewhat to lighten the obscurity.

Alice Bradford, æt. 41, married, and mother of six children, received a severe fright seven years ago on witnessing the committal of a murder. Within a few hours afterward choreic movements began, which soon became very severe, and continued so till the end of her life. No previous history beyond what has already been given could be obtained.

Present state, October 1, 1881: The mental condition has been for a long time previous, and is now one of general weakness. She is exceedingly stupid, irritable, and at times will not answer any question addressed to her. The body is well nourished, food being taken with avidity: its deglutition is accompanied by a peculiar jerking movement of the pharyngeal muscles. Thirst is intense, the quantity of liquid daily drank amounts to several quarts. The skin is frequently covered by an abundant sweat. All the voluntary muscles participate in the spasms, which are very severe, but not more intense on one side than the other. A cup of water placed in the sufferer's hand and directed to be drank exhibits all the bizarre incoordinated movements in perfection, before arriving half-split at the mouth. Slight muscular twitchings persist during sleep. Owing to the extreme stupidity of the woman tests of sensation could not be made with any satisfaction, but it is reasonable to suppose that analgesia was probably present, since the severe bruises produced by striking the arms and legs against the bedside during the choreic spasms were never complained of. The voice is almost inarticulate, jerky, and often interrupted by spasms of the laryngeal muscles. The pupils are normal or very slightly contracted, and do not readily respond to light. The heart participates in the muscular unrest, but there are no valvular murmurs. The pulse is irregular and rapid.

About the middle of October she was noticed to be becoming more stupid than usual, and also to manifest less desire for food; this dulness gradually increased till coma became well developed. The respiration, from being normal or slightly accelerated, grew stertorous, and the heart's action became more feeble. Nevertheless, at times the choreic access continued with unabated violence; the patient in the severity of the exacerbation would strike the arms and legs so violently against the bedside as to bring the blood.

A week before death the stertor grew still more intense, and the heart's action more feeble; the sufferer remaining comatose the entire time, so that it was with the greatest difficulty that she could be aroused sufficiently to be given nourishment. The coma continued without break till death, which happened on the second of November. It was mar-

yellow to witness how the muscular unrest continued in the nearly unconscious condition in which she lay for the week preceding dissolution. No delirium was ever manifest during the entire time she was under my charge. No emaciation was ever visible, and the only surface lesions were a large eschar over the lumbar region produced by the constant friction to which the parts were exposed, and a few bruises on the elbows and legs. I should note that the injuries received healed readily when preserved from further irritation.

The nurse tells me that one night, about six weeks before death, during a violent exacerbation of spasm, she forcibly struck the back of her head and neck against the low iron bedstead upon which she was lying.

Post-mortem (eighteen hours after death).—Weather cold, rigor mortis well developed, measurements of the limbs showed no difference between them. The cranium was first examined. The skull was symmetrical, of ordinary thickness, with the diploë well marked. The dura-mater was normal, no congestion was visible in it, nor were the sinuses filled with blood. No adhesions were present between it and the pia-mater. The latter membrane was thin, transparent, easily detached from the convolutions, natural everywhere, except between the hemispheres, where there had been old inflammation, the outer two surfaces being adherent for one and a half centimetres above the corpus callosum. Several ounces of serum tinged with blood were found in the arachnoid spaces, mostly collected at the base of the brain. No embolisms or other lesion of the arteries could be discovered.

The brain was considerably atrophied, and did not fully occupy the cranial cavity. The cerebral substance was of a softer consistency than is usually found in so fresh a cadaver. Transverse sections were made vertically from before backward. The puncta vasculosa were slightly dilated, and the gray substance also seemed unnaturally vascular. The white matter, further than its vascularity, was normal, as were likewise the caudate and lenticular nuclei and claustrum. The thalami optici were discolored, of a reddish-brown hue, the right ganglion being much more vividly so than the left. This discoloration (in the vertical sections) was circumscribed over about one-half of the centre of these ganglia, the peripheral portions being intact. The vessels of the thalami were abnormally large and empty of blood. Several drachms of serum escaped when the lateral ventricles were opened.

The cerebellum was normal; the bulb was very small, though its contour was as usual.

Spinal Cord.—The laminæ were cut and the membranes exposed. To the eye, the dura-mater offered no anomaly till the arch of the fifth cervical vertebra was reached; here a subperiosteal abscess had formed (most probably a sequel to the severe blow received by the neck some weeks previously) on the right lamina of the arch, which had opened internally, its contents spreading over the surface of the dura. The pus extended from the diseased vertebra to the base of the skull, the quantity being about half an ounce; none had passed below the fifth cer-

vical vertebra, and none into the cranial cavity. The pia-mater was transparent and normal.

The medulla spinalis was very hard, so much so, as to give a clean transverse section with a dull scalpel, did not project beyond the membranes, was atrophied in its entire length, though particularly so in the mid-dorsal region, where measurements gave transversely seven millimetres, and antero-posteriorly six millimetres. The cervical region in the vicinity of the abscess was slightly flattened from before backwards, though the compression had not been sufficient to produce a trace of softening. The anterior median fissure, especially in the greatly wasted parts, presented a wide V-shaped fissure with its apex upon the white commissural fibres. The cord showed no other macroscopic lesions. The spinal nerve-roots presented no aspect of degeneration.

Thoracic Viscera.—In the larger bronchi appeared evidences of chronic bronchitis; otherwise the lungs were normal. The heart was enlarged, without external deposits of adipose tissue. The muscular walls of both right and left sides were thin, and when taken between the thumb and forefinger crumbled like spleen or liver substance. The valves were perfect in their coaptation, and exhibited absolutely no signs of preëxistent inflammation, having neither lymph nor granulations upon their margins, nor lymph patches on the substance of the valves themselves, nor did they present the slightest trace of thickening. The pericardium and endocardium were sound.

Abdominal Viscera.—All but the kidneys were natural, they presenting a deeply congested appearance.

Portions of the cortex from the ascending parietal, second frontal, and an occipital convolution, white matter, ganglia, cerebellum, pons, heart, and entire spinal cord were preserved for histological investigation. They were carefully hardened in a two per cent. solution of bichromate of potassium, frequently changed, and afterwards in alcohol. The majority of the sections made were stained in ammonia carmine; occasionally osmic acid was used to note if any variations could be detected in preparations by different reagents. The specimens were all compared with normal ones, to prevent mistakes.

Microscopic Examination—the Brain: Cortex and White Matter.—The first striking abnormality that presented was a marked dilatation and thickening of the middle-sized and smaller arterioles of both white and gray matter. In this thickening, intima and adventitia were equally involved. Around many of the vessels, the perivascular spaces were large, occasionally containing amyloid corpuscles. The capillaries were distended with red blood-cells, and here and there around a large number of them, particularly those of the cortex, were minute, almost circular spots, which colored dark brown with osmic acid, and were almost untinged by carmine, evidently minute depots of softening resulting from impaired circulation, containing a few leucocytes, with the cerebral tissues totally broken down, the cortical cells in the ulte-

rior stages of pigmentary degeneration, the nerve-fibres disintegrated. The extent of these necrobioses was very limited, the largest scarcely extending one-thirtieth to one-twenty-fifth cm. beyond the perivascular space. Upon the walls and in the outer sheaths of some of the arterioles, numbers of white-blood and granular corpuscles were found.

The cortical cells frequently show a considerable degree of granular alteration, best marked in the smaller multipolar cells, though not confined to them, for a considerable proportion of the large pyramidal cells had totally deteriorated, leaving only a small mass of granular matter; but in others scarcely any variation from the normal could be seen. The processes of the cortical cells that remained sound were well developed, and their nuclei were easily discerned, while, on the other hand, the arms of the altered cells were very fine, or had disappeared entirely, as had likewise many of their nuclei. No difference existed in the cell-state between the motor and sensory portions of the brain; hence no mention is made of special convolutions. There was no appreciable increase of the neuroglia.

A vast majority, though not all, of the nerve-fibres of the brain, both in the motor and sensory regions, exhibited great varicosity, the dilatation in spindle and barrel-form predominating, the knotty swellings being far more frequent than is found in a healthy brain. Frequently through the varicosities the cylinder-axis could be distinctly seen, itself not enlarged, following a wavy course, most frequently towards the side of the swollen medullary sheath, while in other fibres it was very indistinct or visually absent.

Through cortex, white matter, ganglia, and cord, small, reticular, honey-comb spaces, some larger, some smaller, but none of any great size, were met with, crossed at irregular intervals by bands of the tissues proper to whatever region the section under the field of the microscope happened to be from. These vacuolar spots formed irregular lines, sometimes running quite a distance, crossed at intervals by the tissues, at others short, all empty of any discernible substance.

The Ganglia.—The optic thalami claimed the chief attention. The general vascular dilatation and thickening were here very well seen, and in the outer coats of many of the arterioles a considerable nuclear proliferation was observable. Rather frequent minute necrobioses marked the only change in the parts surrounding the vessels, except that in a few lymph-sheaths there were amyloid corpuscles.

The entirely degenerated cells were less numerous than in the cortex; in the majority, the granular matter was confined to a single large lump in one angle, with a few scattered granules through the remainder of the cell, the nucleus clear and distinct, while in the totally deteriorated ones, cell, nucleus, and prolongations had disappeared, leaving only a small mass of pigmented matter. The axes-cylinders of the fibres traversing these bodies were considerably swollen, though the myeline itself presented no unusual variation. No hyperplasia of the neuroglia has yet been noticed. The

cerebellum was free from all lesion, except a few vacuoles.

The Bulb: Region of the Pons Variolii.—The intricate labyrinth of nerve-fibres throughout this region seemed to be normal in all respects; the pyramidal and other well-marked fascia showed no degenerative change; among the myriad cells in the formatio-reticularis, hardly an altered one could be found; there was no increase of neuroglia; even the bloodvessels did not show nearly so great thickening as in other localities. The appearance was greatly different in the neighborhood of the floor of the fourth ventricle. Irregularly scattered through the majority of the nuclei of origin were numerous cells filled with granular matter, and atrophied greatly; in a number, all vestige of nucleus and nucleolus had vanished; of others, all that remained was a small mass of granular matter, showing where the cell had been.

All the nuclei of the trigemini were apparently sound, while the nuclei proper of the facialis, and that common to it and to the abducens, contained a number of granular atrophied cells among the normal ones.

Superior and Middle Olivary Regions.—The scattered cells of the median portion of the medulla and the nuclei along the median raphé had suffered somewhat more from the disease than those immediately adjacent to the floor of the ventricle, they showing a well-marked alteration in nearly all of their cells, whilst in the superior portions of the hypoglossal and glosso-pharyngeal nuclei a considerable proportion of the cellular elements remained normal. However, in the posterior median nuclei of the acustici, the majority of the cells had degenerated. The nuclei of the vagi, too, showed a large number of altered cells. It is noteworthy that, as the section advanced towards the lower portions of the vagi and hypoglossal nuclei, the cellular change became less and less, disappearing almost in the inferior cells of the accessoriis. The olivary bodies, as far as fibres and cellular elements went, were perfectly healthy; their cells were distinct, with nucleus and nucleolus well developed. The nerve-fibres passing to these bodies were also intact.

Inferior Olivary Region.—On each side of the posterior fissure the nuclei of the hypoglossi were clearly depicted, containing not many degenerated cells, while the inferior facial nuclei of L. Clarke, immediately to the outside of the preceding, were much more diseased than any of the other nuclei of origin, all their cells being highly granular and atrophied. Upon the right side the change was greater than on the left, a considerable number of the cells having completely disappeared, judging from the opposite side and from normal preparations. Indeed, throughout the right half of the bulb, the diseased state was somewhat more intense than on the left. The superior portion of the nuclei of the accessoriis contained a good many highly altered cells, which progressively decreased in their lower portions. The gelatinous substance and descending roots of the fifth showed no trace of degeneration.

The vessels of the medulla were all dilated, and filled with blood, though without much thickening of their walls. The extreme external part of the olives, but within the cell-layer, is occupied by a large irregular space, partly filled by an arteriole and vein. Around a number of the vessels of the pons and medulla were collections of amyloid corpuscles with an occasional minute area of dead tissue. There was a noticeable proliferation of the neuroglia in the lower tracts of the medulla.

Spinal Cord.—Immediately after the passage of the medulla spinalis through the foramen magnum, the hyperplasia of the connective tissue became exceedingly well marked in the antero-lateral columns, so much so as to give those portions of the cord a decidedly sclerotic appearance, with here and there an occasional patch of true sclerosis, in which the nerve-tubes were reduced to an exceedingly small number, with the axis-cylinders much hypertrophied, and with very narrow circles of myeline around them.

The vessels of this region were much more thickened and less dilated than in the hemispheres or bulb, while many of them were surrounded by amyloid bodies, and some with areas of necrotic tissue around them. The vessels of the gray matter seemed not so greatly involved, though in a single section a large vein crossed transversely the anterior cornu, surrounded by amyloid bodies and a trace of softened substance.

The cells in all the different tracts of the horns looked to be nearly normal. The central canal was entirely obliterated by an abundant proliferation of its epithelium.

Cervical Enlargement.—The cell lesions were better marked here than in the higher sections of the cord; a few here and there had entirely degenerated, without nuclei or protoplasmic processes, with their bodies reduced to a small mass of granular matter. A small number of the cells presented a nodular aspect, their prolongations ending close to the body, their nuclei present, though seen very indistinctly. The greater portion of the cells of the horn contained some granular matter, and showed an unusual yellowish tinge. In one gray column I counted twelve very granular and nodular cells amongst a total of seventy-three contained in the horn.

The hyperplasia of connective tissue and Dieter's cells is here considerably less than in the higher tracts, but there is still an abundance of it. The change in the vessels seems to be much in proportion to the amount of neuroglia. The central canal continues the same—that is, occluded.

Dorsal Cord.—The increase of connective tissue and Dieter's cells again became much more noticeable, heavy trabeculae extending from periphery to centre, densest in the anterior and lateral columns. The nerve-tubes were much scarcer than is usual, compared with normal preparations, their places being filled with neuroglia cells and trabeculae, the tubes themselves showing some evidences of sclerosis in an occasional swelling and irregularity of the cylinder-axes, and a varicose or diminished state of the myeline. Longitudinal sections showed

the absence of the axis-cylinder from its sheaths in a small proportion of the fibres. The spindle swellings were much more infrequent than in the brain.

The thickened vessels still continue, and are even more numerous than in the other regions previously examined. The centre of the gray cornu on one side is occupied by an arteriole having a lumen only one-third the transverse diameter of the vessel. Amyloid bodies are still found.

The cell degeneration in the dorsal cord is confined to an occasional one in each section, principally in the median and postero-lateral groups. The central canal was entirely closed in all preparations of the dorsal cord. Throughout the entire gray columns, the nerve-fibres running longitudinally in them had to a large extent vanished.

Lumbar Region.—The augmentation of the neuroglia has now comparatively subsided, being only thinly scattered over the lateral and anterior tracts. The fasciculus of Türk on the right side showed the sclerotic condition more than on the left. The vessels are not so highly thickened as in the superior portions of the cord; the artery in the centre of the gray horn still continues, and holds the same course as in the dorsal tract. The spots of softening around the vessels, which had become more and more scarce as we descended the cord, now entirely disappeared, as also did the vacuolæ.

The motor cells of the anterior horns, on the contrary, revealed the degenerative process more plainly than in any other region. Frequently whole groups of cells appeared diseased, and it was infrequent to meet with an approximately normal one, an event not before met with in any portion of the cord. The central canal is still occluded. Through the entirety of the medulla spinalis the fasciæ of Goll and Burdach were much less involved by the increase of neuroglia, and, indeed, in many places had been completely spared. The posterior horns also were normal throughout the cord.

Nerve-roots.—The root-fibres of the trigeminus were perfectly free from any abnormal condition. The roots of the spinal nerves showed a partial granulo-fatty degeneration of the sheath of Schwann, though the axes-cylinders were normal in all respects. Very few of the nerve-tubes had escaped the alteration entirely.

The Heart.—Isolated fibrillæ of this organ revealed slight fatty degeneration of the primary muscular fasciculi. The transverse striation was also indistinct. Teasing was performed with great difficulty, the muscle breaking down into irregular masses under the slightest pressure of the needles.

Résumé.—In the brain, general dilatation and thickening of the arterioles; small gangrenous spots around many vessels; amyloid corpuscles in the lymph-sheaths; vacuoles in white and gray matter; varicosities of the sheath of Schwann, and absence of axis-cylinders in the nerve-fibres; and complete pigmentary degeneration of a large number of the cortical and ganglionic cells, with loss of the prolongations.

In the bulb, the vascular lesions are much diminished; necroses rare; amyloid bodies in some

lymph-sheaths; alteration of the nuclei of the facial, abducens, hypoglossal, glosso-pharyngeal, acousticus, vagus, accessorius, and inferior facial of L. Clarke, and other groups and scattered cells centrally situated along the median raphé.

In the superior cervical cord, increase of vascular changes; necrobioses frequent; partial sclerosis of antero-lateral columns; ganglionic cells comparatively healthy. In the cervical enlargement, increase of cellular change, with diminution of the connective tissue one.

In the dorsal cord, immense augmentation of the diffused sclerotic state in the anterior and lateral columns; vessel-walls much hypertrophied; little change in the ganglionic elements; varicosities of the medullary sheaths, with an occasional swelling of the axis-cylinder, and its complete absence from the fibre in others. In the lumbar cord, degeneration of the majority of the motor cells; increase of neuroglia less marked. Occlusion of the entire central canal; posterior horns sound throughout the cord; no embolisms in any of the vessels; granulo-fatty changes in the sheath of Schwann in the spinal nerve-roots: fatty degeneration of the muscular fibrillæ of the heart.

Commentary.—The histological results of the present observation do not differ widely from ones that have been previously made in chorea. The cell degeneration, thickening of the adventitia and intima, or dilatations of the vessels, increase of the neuroglia, etc., have all been seen by other observers, notably Rokitansky, Steiner, Dickinson, Elischer, and Golgi; but what has not been previously mentioned so far as I am able to discover, is the inflammatory state of the nerve-tubes of the brain and cord, the vacuolæ, the degeneration of the nuclei of origin in the bulb, the fatty state of the heart. Nor has the same state of the spinal root-fibres been noticed, except in the case of Elischer,¹ who found increase of the neurilemma, and the nerve-fibres covered as with hoar frost and glassy; a condition which, though not analogous, is yet sufficiently so to show that there is an alteration in the peripheral nerves. Contrary, too, to the reports of Elischer² and Golgi,³ the posterior white columns were, to a great extent, saved from the general diseased condition of the cord.

In the pigmentary alteration of the nuclei of the vagi, can we not see an explanation of the common implications of the heart in the choreic movements, with or without valvular trouble; *the disease causing loss of the inhibitory power of the pneumogastric nerve, hence the irregular action of the heart muscle?*

Again, the cell degeneration and vacuolous state (showing atrophy of the cerebral matter) of different portions of the encephalon, particularly the cortex, may readily account for the mental alienation almost universally seen in St. Vitus' dance when of any duration, and for the fact that mania and paralytic dementia sometimes follow it.

In concluding, I sincerely thank Dr. I. Bernmann for his kind assistance in corroborating and confirming my results of the examination of the cerebro-spinal axis.

A CASE OF HEPATIC ABSCESS DISCHARGING THROUGH THE BRONCHIAL TUBES; RECOVERY.

BY JAMES ORR, M.D.,
OF TERRELL, TEXAS.

A. D., aged 36, stout and healthy, after several days' illness, sent for me March 8, 1882. I found him restless and anxious; skin hot and dry; temperature 103° , pulse 90, respiration 22; intolerance of light and noise; nausea without vomiting; urine scanty and high-colored; tongue dry and red; conjunctiva slightly yellow; intense pain over stomach and right hypogastric region; bowels constipated.

The case was treated as one of gastro-duodenitis; ordered pills of morphia one-sixth of a grain, conium ext. one-half grain, and ext. hyoscyamus two grains, every four hours; also ten grains of acetate of potassium in two drachms of liq. ammon. acetatis every four hours. Diet light, and bowels to be moved every alternate day by enema.

Under this treatment, he improved rapidly, all his bad symptoms subsiding so much that he sat up on the twelfth for an hour or more. The next day, however, his fever returned, and grave symptoms manifested themselves at once, his temperature running up to 104° ; pulse 120, respiration 28; intense nausea, with vomiting and diarrhea; increased pain and tenderness over region of stomach and liver, the latter being swollen to nearly double its usual size, and very tender on pressure. Ordered morphia, grain one-sixth, and oxalate of cerium, grains five, for relief of pain and nausea, as occasion required; added full doses of tinct. digitalis to the mixture of acetate of potassium and spiritus Mindereris, previously given; also pills composed of ext. nux. vomica one-eighth of a grain, ext. conii. one-half grain, and ext. hyoscyami two grains every four hours. Blister three by four over liver.

March 15.—Nausea and vomiting have ceased; nervous symptoms less troublesome; pain under control; other symptoms unchanged, except the patient is completely discolored by jaundice, his entire body being as yellow as an orange. Continued treatment as above, substituting aconite for digitalis in the febrifuge, and increasing the area of blister over liver.

18th.—All symptoms improved, only the liver does not decrease in size. Ordered iodide of potassium in calisaya as tonic and alterative, with careful attention to diet and regimen. The skin and kidneys were kept rather active in their work of elimination, in which they were eminently successful, all the discoloration having disappeared in ten days, but in the matter of reducing the size of the liver, I was not only doomed to disappointment, but soon learned that I had an abscess to deal with. The acute symptoms having subsided, tonic treatment was now resorted to, a succession of blisters applied over the diseased organ, and the morphia

¹ Elischer, Virchow's Arch., Bd. 61.

² Elischer, loc. cit.

³ Golgi, Revist. Clin., 1874, cited by Von Ziemssen, Ziemssen's Cyclopædia.

with oxalate of cerium continued for relief of the pain and nausea, which were constantly recurring. Under this treatment, the general condition improved, but no sign of adhesion could be detected, nor could any fluctuation be felt.

April 9.—Discovered acute circumscribed pneumonia in the lower lobe of right lung, which, however, gave but little trouble and soon yielded to treatment. On the 17th I was called away and did not return till the 22d, when I found my patient very much worse, great prostration having set in, while his countenance wore a livid and anxious aspect; temperature 100° , pulse 140, respiration 30; complained of great pain in the lower part of right lung. Has a constant distressing cough with expectoration of tough glairy mucus in small quantities. While examining him he coughed up about a teaspoonful of what appeared to be almost pure bile, which led me to the conclusion that the abscess was going to discharge through the bronchial tubes. From this time the cough became constant and harassing, the expectoration rapidly increasing; in twelve hours it amounted to a pint of what seemed to be an admixture of bile and pus with a few shreds of broken-down tissue.

24th.—Total amount of expectoration up to this time is two quarts, the character of which has not changed; his constant effort to expel the pus from his bronchial tubes has greatly reduced his strength despite the large quantity of brandy and ammonia given. Temperature 98° , pulse 140, respiration 46; tongue yellow from expectoration, skin cool and moist, urine scanty and high-colored, bowels constipated, considerable thirst and anorexia. The liver, which has all along been swollen and hard, has greatly diminished in size with a distinct depression several inches in diameter, having well-defined margins, indicating where the abscess existed. During the day another pint of matter was expectorated, making five pints in all up to this time. The cough and expectoration now began to subside rapidly, and by May 8th had ceased altogether, the patient having greatly improved under the judicious use of wine of pyrophosphate of iron, Huxham's tincture, and dilute phosphoric acid. At this time, March 1, 1883, he enjoys better health than ever before, presenting no trace of his former disease, except a slight depression over the margin of the liver, and somewhat prolonged respiratory murmur in right lung.

The rapidity with which this very large abscess emptied itself leaves no doubt that a bronchial tube of considerable magnitude was perforated, to reach which the pus was forced to travel some distance in a direction contrary to gravitation, which taken in connection with the rapid and complete recovery of the patient, marks it as a case of no little interest to the practitioner and illustrates the wonderful curative powers of nature when given a fair chance.

MEDICAL PROGRESS.

SPLENECTOMY.—Rather more than a year ago Mr. Herbert Collier published a table of twenty-nine cases of removal of the spleen, showing eight recoveries, but

an invariably fatal result when the splenic disease was associated with leucocythaemia. From this fact, Mr. Collier drew the inference that the operation was not justifiable in cases of leucocythaemia. In some quarters exception was taken to this view, and it was pointed out that the operation had been employed when the disease was too far in advance, and that it was wrong to infer that the same mortality would attend it if performed at a quite early period and before the general blood changes were far advanced. A case has occurred in the practice of Franzolini, of Turin, which appears to support this view. His patient was a young woman, twenty-two years of age, whose illness commenced with pain and distress in the left side of the abdomen two years before she came under his care; after eighteen months a large splenic tumor was noted; and some months later an increase of leucocytes in the blood, which at the time of the operation were five times in excess of the normal. The spleen was removed through an incision in the linea alba, its artery and vein were ligatured separately; it weighed after removal and when emptied of blood fifty-two ounces. The leucocythaemia gradually subsided, and had disappeared altogether in four months. This case is certainly encouraging. Dr. A. Blum has recently written an article upon the whole subject of excision of the spleen in the *Archives Générales de Médecine*. His conclusions, based upon a study of the recorded cases, are that while the operation of splenectomy is practicable and is compatible with complete recovery, it is so often fatal from hemorrhage or shock that it is but rarely indicated. He considers that it is not justifiable in cases of splenic cysts, because they can be cured by other and milder measures; or in cases of hypertrophy, whatever its cause; or in cancer of the organ, on account of the very high mortality. But he points out that in cases of movable spleen with marked and severe symptoms, the operation is comparatively easy and successful; while in cases of hernia of the spleen following an injury, the removal of the herniated portion is so successful that the surgeon is fully warranted in undertaking it.—*The Lancet*, July 28, 1883.

JAMAICA DOGWOOD.—PROF. OTT, after a number of experiments with this agent, concludes that the sleep produced by it has the same characteristics as that produced by bromide of potassium. He has experimented on himself with it, and found that after taking a spoonful of the fluid extract of the bark, sleep came on quickly, and lasted for three hours. On awakening, there were no disagreeable sensations, such as are felt after taking opiates. Its active principle produces mydriasis, not in the same manner as atropine, but by an energetic action on the vaso-motor nerves. The fluid extract may be given in doses of about $1\frac{1}{2}$ ss. It may be combined with double its amount of syrup of bitter orange-peel, or with double its amount each of distilled water and syrup.—*Therapeutic Gaz.*

PROPHYLAXIS OF PUPERAL FEVER.—The paper by Swiecicki, in *Centralbl. f. Gynäk.*, as to the time during which a physician should abstain from obstetrical practice after having made an autopsy, or after attending a case of puerperal fever, has brought out a communication from HERMANN LÖHLEIN to the *Gesellschaft für Geburtshilfe und Gynäkologie zu Berlin*, in which he replies to Swiecicki. It will be remembered that Swiecicki concluded that the proper time for this self-quarantine was eight days. It is clear, says Löhlein, that if this rule be rigidly carried out, grave consequences and great inconveniences will result. Hospital physicians would be unable in many cases to perform their duties, and medical students who are dissecting would be ex-

cluded from hospitals; for if the performance of an autopsy is a sufficient reason for quarantining a physician, the opening of an abscess, or examining a case of cancer of the os, is also sufficient, and endless inconveniences would result from this practice. He believes that strict cleanliness and proper antiseptic precautions are all that are necessary.—*Centralbl. für Gynäk.*, No. 23, 1883.

FRITSCH, in commenting upon Löhlein's paper, upholds him. He has followed these methods for ten years, and has had no serious cases. In 1873 he attended his brother for five months, who had coxitis and profuse attendant suppuration. After each dressing, he thoroughly disinfected himself with a six per cent. solution of carbolic acid, and though during this time he attended two hundred and forty obstetrical cases, there was not a single death, and no case of severe illness.—*Idem.*

THE TUBERCLE-BACILLUS IN THE AIR.—DR. C. THEODORE WILLIAMS recently selected one of the ventilation shafts at the Brompton Hospital for Consumption in which the flues of several wards converge, and in which extraction takes place at the rate of 300 to 400 feet a minute. In this current he suspended glass plates smeared with glycerine for a period of five days. The plates were then washed with distilled water, the fluid mixed with a little mucilage and evaporated down to half, and the residue tested for bacilli, which were found in fair abundance.—*The Lancet*, July 28, 1883.

STATE OF THE GUMS IN PREGNANCY.—M. DELESTRE has observed that not only in pregnancy, but during the menstrual periods, the gums in the female are congested, swollen, and softened. The gingival troubles commence about the second month of pregnancy. Didsbury describes three degrees of gingivitis of pregnancy. In the third, the gums are so inflamed that they have a reddish-violet color, are swollen, and the interdental portions are clearly shown. The tartar and epithelial débris accumulate around the teeth. This inflammation may extend to the alveolo-dental periosteum, for the teeth seemed to lose their lime, become elevated, and may fall out. This gingivitis is situated particularly in the anterior portion of the jaws; it rarely goes back of the canine teeth. Only the convex surface of the jaws is attacked. The treatment should be energetic; the tartar should be removed and the inflammation treated by astringent preparations, chlorate of potash, etc., and in grave cases with tincture of iodine, chromic acid, and hydrate of chloral mixed with some astringent tincture.—*Journal de Méd. de Paris*, June 23, 1883.

FEEDING IN CHOLERA.—DR. B. WARD RICHARDSON, in a recent communication to the *Medical Times and Gazette*, Aug. 4, 1883, says that he has been led to the conclusion that every fatal sign and every danger in cholera is due to the one simple act of the removal of water from the tissues, and especially from the nervous structures; to disturbance of nervous action by that removal; and to excessive reduction of heat, sensible and latent, from the body.

The treatment suggested during collapse, and based on these views, introduced the consideration of the plan of feeding by the veins, and of intra-peritoneal injection.

The lines of treatment, as they appeared and, with some additions, appear to him, were much the same as should be pursued in cases of exposure to extreme cold, where the body has been brought to several degrees below the natural standard of heat, and where, owing to the cold, the surface of the body is blue, the

blood all but stagnant, and the consciousness reduced or lost. In such a case it would be folly to charge the affected person with cold, iced drinks, for by such means the temperature of the body would possibly be further reduced. In such a case it would be folly to plunge the person into a hot bath, for although there might, thereupon, be a sudden reaction, there would be no source of supply of heat, but merely a heat shock or stroke, under which the remaining vital powers would be called into sudden activity, to cease directly in death—the glacial form of inaction and rigidity, which is not of necessity fatal, being transformed into the pectus change, or true rigor mortis of the nervous, vascular, and muscular fluids, from which there is no known mode of resolution. In such a case it would, it seemed to him, be also useless to place the affected person in the hot-air bath, because exposure to heated air, under conditions in which the capacity of the blood to circulate freely is lost, would only tend to increase the danger of coagulation of the blood in the body, and, by quickening evaporation of water from the respiratory surfaces, to intensify the exhaust of water from the body.

The first point of practice in the collapse was, then, he thought, to place the sufferer in a medium temperature, not below 50° and not above 60° Fahr., so that neither the chilling action of cold nor the exhausting action of heat should exert a destructive influence; though heat, he thinks, is really the more dangerous of the two—a suspicion which the experience of cholera in tropical temperatures too fully confirms.

The next point of practice in the stage of collapse, which was suggested as the most rational, was that of feeding. He himself has succeeded in administering a quart of fluid per hour to the person stricken with cholera; and as the complaint of thirst is a common complaint there is never much difficulty in the persuasion.

The fluid to be supplied should, he holds, on all rational grounds, be one that shall fulfil two purposes. It should not make the body cooler by extracting heat, it should not produce local reaction by instant excess of heat; but it should be supplied after it has been raised from fifteen to twenty degrees above the animal temperature. I had often seen vomiting re-excited after that symptom had considerably decreased from the simple process of administering a drink too heated or too stimulating.

Taking advantage of the fact that crystallizable fat when mixed with albumen can be dissolved by the heat of water, which heat it fixes in becoming soluble, and gives up again on solidifying, he set to work to produce a food having the properties named. After numerous attempts the following proved most successful:

Take of pure stearine two ounces by weight; of best fresh butter, two ounces; of whites and yolks of eggs, well beaten up, eight ounces; of carbonate of soda, twenty grains; of common salt, eighty grains; of distilled water, two ounces.

In preparing the food, first dissolve with heat the stearine and the butter until they are both melted, then add the carbonate of soda and common salt to the eggs, and when these salts are dissolved in the egg-fluid, mix it with the oily fluid, taking care that the latter is not of a temperature above 140° Fahr. Let the whole cool to a soft consistence, and finally on a slab or a board, rub in the water with a broad spatula. The compound may now be placed in a wide-mouthed jar; in a little time it settles into a moderately hard mass, and is ready for use.

In administering this compound, take one ounce, place it in a large breakfast cup, and rub it up equally with a teaspoonful of glycerine or a teaspoonful of

honey. Next pour upon the mass three ounces of distilled water, *actually boiling*, and incorporate well. The solid substance will now quickly and evenly dissolve, and will be at once so cool that it can be taken as a pleasant drink, like a broth in flavor.

Feeding by the Veins.—When feeding by the mouth is impossible, the next indication in the stage of collapse is to feed by the veins. In using this term he wishes to make a difference between mere injection of the veins with watery fluid and feeding by the veins. His proposition was, and is, *to feed*—to feed in the same way, as nearly as can be imitated, as the venous system is fed in health from the alimentary canal through the thoracic duct—slowly and steadily, so as to supply food as well as water.

Up to this time we have been content to inject warm saline solutions into the veins. The results have been often astounding, almost always delusive. In some instances it has seemed as if the injection has restored the dead to life, but the collapse has only too surely recurred.

The reason why certain immediate but not lasting benefits have followed these injections is, that they have been injected after the fluids used have been heated up to, or above, bloodheat; the heat thus supplied has been the underlying basis of the transient success.

ACTION OF MORPHINE ON THE INTESTINE.—L. M. PETRONE, in the course of some experiments on the action of sodium, potassium, and ammonium on the muscular fibres of the intestine, has indirectly demonstrated that morphine does not act on the terminal filaments of the splanchnic nerve, or upon the nerve trunks, but upon their central origins. The question may then be asked, Is the action of morphine on the intestine similar to that of digitalis on the heart? Nothnagel has answered this affirmatively; he has demonstrated experimentally that morphine, like digitalis, moderates, checks, or suspends nerve action in small doses, and in large doses paralyzes it. Nothnagel's experiments were repeated by Petrone, who concludes that small doses of morphine stimulate the terminal filaments of the splanchnic, whilst large doses paralyze them.—*Annali Univ. di Med. e Chir.*, June, 1883.

FIBROMA OF THE VAGINA.—In the *Boston Medical and Surgical Journal* for August 16, 1883, DR. EDWARD T. CASWELL, of Providence, records the case of a young lady, who was soon to be married, and who had been aware of some obstruction in the vagina for about two years. Latterly the obstruction had seemed to increase. There had been no pain, and no disturbance of the menses. Some inconvenience was experienced in walking, and some in sitting. On examination he found a tumor in the middle line of the anterior wall, over the course of the urethra, as large as a pigeon's egg, its anterior extremity being about three-quarters of an inch back of the meatus. It was not sensitive to pressure, and had a slightly elastic feel. An operation was advised for many reasons, not the least of which was the relief from anxiety that it would afford the patient in view of her approaching marriage.

A single incision in the middle line enabled him to easily enucleate the tumor, which measured in its long diameter about one and a half inches, and about three-quarters of an inch in each of its other dimensions. Under the microscope it proved to be a fibroma. There was but little hemorrhage, and the wall of the urethra was uninjured. Two or three sutures of catgut, with a small piece of drainage-tube, some absorbent cotton, and a napkin, were all that was required in the way of dressing. Carbolized injections were freely used, and the catheter passed for three or four days. The tube

was removed on the third day. The recovery was uninterrupted, save for a slight hemorrhage on the day after the operation, which was checked by an injection of hot water. The wound was entirely healed by the eighth day, and the patient dismissed on the tenth. Except for the slight discharge of the first few days the young lady was conscious of no departure from her usual condition of health.

RESECTION AND DISARTICULATION OF THE INFERIOR MAXILLA FOR CENTRAL SARCOMA; EXTRIPATION OF THE PAROTID AND SUBMAXILLARY GLANDS.—PROF. ANDREA CECCHERELLI reports the following interesting case occurring in the surgical clinic of the Royal University of Parma. S. C., æt. 17, peasant, of robust physique, well formed, no bad history. Parents always healthy. At the age of ten years he noticed a small induration about the middle of the right half of the inferior maxilla. It commenced spontaneously, and caused no pain, even after prolonged examination, and though it kept on growing, the patient had not thought that it could be removed. He entered the clinic on December 3, 1882, at which time the tumor was of very large size. The swelling commenced at the mental symphysis, extended along the whole body of the bone, and about a third of the distance up the ramus. The mass was hard, resistant, smooth, and immovable. It was so large that the patient could only open and close his jaws with great difficulty. The mucous membrane of the mouth was sound and freely movable over the tumor, but very much distended. The diagnosis of central osteo-sarcoma of the inferior maxilla was made. On Dec. 5th, Ballini's operation was performed, the bone being resected at the symphysis and disarticulated. Cicatrization proceeded normally and without a bad symptom until about the end of December, when the part began to have a suspicious look.

It was noticed at the time of the operation that the parotid gland was unnaturally firm. This firmness increased so rapidly that it was found necessary on January 11th to extirpate the right parotid, submaxillary, and some cervical glands. The patient left the clinic, cured, on February 20th.

In the same article Ceccherelli reports a case of resection of the inferior maxilla for epithelioma, the external method being used in this case also. The patient entered the Hospital on Dec. 4, 1882, and was discharged on January 11th. No recurrence up to date. In both cases the diagnosis was confirmed by microscopic examination of the tumors.—*Lo Sperimentale*, June, 1883.

NEPHRITIS FROM COMPRESSION OF THE URETERS IN CANCER OF THE UTERUS, WITH CONSECUTIVE HYPER-TROPHY OF THE HEART.—It is not rare to find, says M. G. ARTAUD, at the autopsy of women dead of cancer of the uterus, either one or both ureters compressed or obliterated by the neoplasm. This compression or obliteration causes dilatation of the ureter above, distention of the pelvis and calices of the kidney and alterations of the renal substance, which vary according to the intensity or duration of the compression; and in these cases it is not rare to find in women who die in a state of extreme anaemia, a hypertrophy of the left ventricle of the heart, which has been caused by the secondary nephritis. After having studied these cases, Artaud draws the following conclusions:

1. In the course of cancer of the uterus there may be developed, from compression of the ureters, kidney lesions, of which the principal characteristics differ according to the degree and duration of the compression.

When there is but little compression, the size of the kidney is normal or slightly increased. The histo-

logical lesions consist in a nuclear infiltration about the uriniferous tubules and the glomeruli and small arteries, a hypertrophy of the glomeruli, and a dilatation of the convoluted tubes, of which the epithelium has undergone fatty degeneration. The size of the collecting tubes is normal, or nearly so, and the epithelium unaltered.

In cases of long-continued pressure, where the ureter and pelvis of the kidney are very much dilated, the kidney becomes atrophied, and the degree of atrophy is in direct proportion to the dilatation of the ureter and pelvis. The pathological lesions consist in the passage to the fibrous state of the nuclear infiltration observed in the beginning of the disorder, and in the breaking down of the straight and collecting tubes, the epithelium of which has undergone embryonic change. The glomeruli undergo either fibrous or cystic change and the convoluted tubes present the same epithelial alterations as in the first stage.

Kidney lesions produced by compression of the ureter in the course of cancer of the uterus frequently bring on hypertrophy of the heart, which is exclusively confined to the left ventricle. This hypertrophy is rarely accompanied by interstitial nephritis. This forms another variety, hitherto but little studied, of cardiac hypertrophy coming on in the course of affections of the urinary organs. — *Gaz. Méd. de Paris*, August 4, 1883.

FUSIBLE METAL FOR TAKING CASTS OF ANATOMICAL PREPARATIONS.—DR. J. S. MIXTER recently read a paper on this subject before the Boston Society for Medical Observation. The methods used by Hyrtl for corrosion preparations do not answer well in our climate, as they are apt to melt in the hot summer weather. Henle used metal for casts of the ear, and Sands for those of the urethra, but no use seems to have been made of such metal for the finer injections of the bloodvessels. The compound used is known as Wood's metal, and consists of bismuth, seven parts; lead, four; tin, two; and cadmium, one. This will melt at a temperature of from 140° F. to 160° F. It should be melted under water which has been previously boiled, in order to prevent the rapid oxidation which takes place when it is heated in the air. After having heated the organ to be injected to 140° F. the metal is forced in by means of a syringe, and the part left to cool for some time, for when near the melting point it becomes quite brittle, but when cooler it can be handled quite safely. After having injected and cooled the organ it is immersed in a warm concentrated solution of caustic potash for some two hours, when the tissues become softened, and can be washed away with cold water.

Very beautiful preparations were shown of injections of the vein and artery of a human kidney, of the foetal circulation of a human child at birth injected through the umbilical cord, also preparations of the lungs of a sheep and a cat injected through the trachea, and specimens from the liver and kidney of animals. Dr. Mixter has also made some injections of bone by placing the specimen, immersed in the liquid metal, under the bell of an air-pump; the air was then exhausted, withdrawing the air also from the interior of the bone; on readmitting the air to the bell the metal was forced into the finer bony openings, and a cast was thus obtained. It was often necessary to soak the bone for a week in the strong potash solution or even to use strong sulphuric acid.—*Boston Med. and Surg. Journal*, August 16, 1883.

TOXIC EFFECTS OF ALBUMINOUS URINE.—Recently, M. DOLÉRIS has made a second communication to the Société de Biologie on the toxic properties of albu-

minous urine collected from pregnant women, and containing microbial elements. Inoculation of the culture liquid obtained by using these elements has produced the same microbes in the blood of inoculated animals, with convulsive seizures before death.—*Gaz. Hebdom.*, July 27, 1883.

A NEW METHOD OF DETECTING THE TUBERCLE-BACILLUS.—DR. C. THEODORE WILLIAMS has lately adopted a modification somewhat resembling Rindfleisch and Chill's, which still further simplifies and shortens the process. The cover-glass with the dried sputum thereon is floated in a few drops of magenta aniline in a watch-glass, and heated over a flame till vapor is seen to rise from the surface. The watch-glass is then removed and allowed to cool for two or three minutes, the cover-glass is afterwards treated successively with nitric acid (1 in 4), with distilled water and a weak solution of alcohol. It is dried and mounted in Canada balsam, the whole process not exceeding eight minutes. —*The Lancet*, July 28, 1883.

SANITARY VALUE OF THE ELECTRIC LIGHT.—PROF. MAX PETTENKOFFER has recently given a detailed opinion of the electric light in theatres, in which he draws the following conclusions: 1. The electric light hinders, to a great extent, the overheating of the air in the theatre. 2. Of course, it does not render ventilation of the theatre superfluous, but affords in itself a more thorough means of ventilation than gaslights, which contaminate the air of the room by the heat and products of combustion, both of which are avoided by using the electric light.—*Wien. Med. Presse*, July 29, 1883.

ANTISYPHILITIC PROPERTIES OF CASCARA AMARGA, BAROBA, AND BERBERIS AQUIFOLIUM.—For the past four years DR. FROHLING, of Mexico, has used cascara amarga, the bark of a tree of Honduras of the genus picramina as an antisyphilitic. The fluid extract is given in doses of gtt. xl-1 to an adult in secondary syphilis. The symptoms quickly disappear, and the tonic action of the remedy is striking. In a case of specific iritis, Reuling has seen a manifest amelioration within three days—the dose being gtt. xl of the fluid extract three times a day. The instillations of atropia were stopped and cascara amarga used alone.

The leaves of the Brazilian baroba, the extract of which is officinal in France, have been used by C. WEBER, of Leipzig, and by EDSON, in obstinate forms of secondary syphilis, gtt. xv-3j being given in a day. It is a valuable antisyphilitic tonic and alterative.

According to DR. BAIRD, of Tennessee, the berberis aquifolium (Oregon grape root), is a valuable remedy in secondary syphilis. He has prescribed it in two cases in syrup or a solution containing 3xv of iodide of potassium—dose, a dessertspoonful in coffee three times a day.—*L'Abeille Méd.*, Aug. 6, 1883.

DILATATION OF THE CERVIX IN HYSTERICAL OPISHTHOTONOS.—A young woman was recently brought to von Nussbaum's clinic, who one year before had had the operation of slitting the cervix performed on account of amenorrhoea and hysterical cramps. The operation had given relief, but was not permanent.

The cervix felt hard and cartilaginous, and the os was closed. The cramps had returned and were of the true opisthotonic type. Von Nussbaum repeated the slitting, and inserted his index finger into the uterine cavity; he then thoroughly cauterized the lips of the wound with Paquelin's thermocautery. The operator hopes for the best results from this treatment, and so far the cramps have not returned.—*Allgem. Wien. Med. Zeitung*, July 31, 1883.

THE MEDICAL NEWS.

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SATURDAY, AUGUST 25, 1883.

THE RESULTS OF THE QUININE PILL ANALYSES.

THE profession has just been favored with another analysis of quinine pills which fully confirms the prior results of THE MEDICAL NEWS Commission. Last April, when *The Pharmacist* published Prof. Diehl's analysis, it offered to produce the remaining pills of the packages from which the samples were taken, if the manufacturers so desired, for another analysis under their supervision. This offer was not accepted by any of them, with the single exception of Messrs. McKesson and Robbins, "seemingly on the ground," according to *The Pharmacist*, "that it was forgotten by the masses, and, therefore, it was better to let it remain unsettled than to again try an investigation."

After the successive declinations of Prof. Diehl, Prof. Prescott, Mr. Charles Rice, Dr. Squibb, and Dr. Mott, Messrs. McKesson & Robbins finally secured the services of Mr. Wm. Habirshaw, who is one of the New York Custom House analysts of cinchona bark, as an expert to witness the analysis to be made by Dr. Edward Polenske, the chemist of Messrs. McKesson & Robbins. The analysis was made in New York by Dr. Polenske in the presence of Mr. Habirshaw and Prof. Austin as chemists, Mr. Cowdrey, the editor of *The Pharmacist*, and two representatives of the firm of McKesson & Robbins. The herapathite test, as advanced by Prof. Diehl, was used, it being modified only "where it was considered that Prof. Diehl had erred." The results are given in *The Pharmacist* for August.

Four samples were analyzed. To test the correctness of the method, the accuracy of calculation, and

the expertness of the chemists in manipulation, Mr. Cowdrey had two samples of pills carefully made in Chicago with known quantities of Powers & Weightman's sulphate of quinine, and then gelatine-coated. No. 1 consisted of one hundred pills made from two hundred grains of sulphate of quinine. No. 2 consisted of one hundred pills made from two hundred grains of a mixture of sulphate of quinine 95 per cent., quinidia sulphate $2\frac{1}{2}$ per cent., and cinchonidia sulphate $2\frac{1}{2}$ per cent. No. 3 was the remainder of the original sample analyzed by Prof. Diehl; and No. 4 was some two-grain quinine pills of *recent manufacture* taken from McKesson & Robbins' stock-room. Sample No. 3, upon analysis not representing the amount of quinine that Messrs. McKesson & Robbins thought it should, and "there being a question if the alkaloid bearing ether had not inadvertently been lost by the too rapid boiling of the ether while on the water-bath," it was decided on the following day to make from the same sample another analysis, which is numbered 5.

The results per two-grain pill are given in grains in the following table:

No. of Sample.	Total Quinine Sulphate, $8H_2O$.	Total Alkaloid as Sulphates, $8H_2O$.	Per cent. of Foreign Alkaloid.	Deficiency of Total Alkaloids.	Deficiency of Quinine Sulphate.
1	1.992	2.090	.46		.008
2	1.893	2.052	.77		.107
3	1.782	1.869	.47	.131	.218
4	2.036	2.083	.22		
5		1.963			

No. 5 shows a larger amount than No. 3 of total sulphate alkaloids, although still deficient in weight. For some reason, the amount of sulphate of quinine present in it does not appear to have been calculated.

It will be observed that in these new analyses the manufacturers have the benefit of the increased weight resulting from calculating the sulphates as containing eight equivalents of water of crystallization, which are allowed by the *U. S. Pharmacopœia*, although its standard official formula gives seven equivalents, and the calculations of THE MEDICAL NEWS analysis were made on this basis. In commenting on this point, *The Pharmacist* says: "It is plainly evident that eight molecules of water are more than a fair allowance for water of crystallization, as it is evident that the bottle of Powers and Weightman quinine did not contain quinine with over seven molecules of water. The figuring of results on the basis of eight molecules increased the amount of alkaloid in 1 and 2 beyond the amount actu-

ally present; but if the *Pharmacopæia* allows eight molecules of water of crystallization, we can hardly object to the manufacturers claiming the utmost limit of the *Pharmacopæia*, even though the quinine of commerce contains less than that amount."

The foregoing results, we suppose, are accepted as correct by Messrs. McKesson and Robbins, since they were obtained by their own chemist. They are certainly very satisfactory to us, since they closely agree with our own results, and are strongly confirmatory of the accuracy and correctness of our analysis, which gave for the McKesson & Robbins' two-grain pill 1.76 gr. calculated with seven equivalents of water of crystallization.

It is with great satisfaction, too, that we note the beneficial results to both the profession and the public which have followed the publication of THE MEDICAL NEWS analysis. It was to be anticipated that the houses whose products were found to be deficient would carefully investigate every point in their pill manufacture, and even revise their working formulæ, if found necessary to bring their products fully up to the standard which is claimed for them. In the case of Messrs. McKesson & Robbins, this appears to have been done, and it is with very great pleasure that we note that a recently manufactured sample taken from their store-room was shown by the analysis just made to contain the full weight of sulphate of quinine, and we have no doubt that if the pills of recent date of other manufacturers had also been examined, a like result would have been found. Thus the profession and the public, as well as the manufacturers, will be the gainers by the greater care which is now being bestowed upon the character of the laboratory-products of our large manufacturing pharmacists.

When, last December, THE MEDICAL NEWS published the results of its analysis of certain leading brands of quinine pills, we observed, without any special surprise, that little, if any, notice was taken by our contemporaries of the rather startling results, in spite of the importance to the profession and the public of the fact that this dominant pharmaceutical product seemed to be very largely manufactured of short weight.

We say that we were not surprised, for we were advised that some manufacturing houses, whose wares had failed to come up to the standard, and whose advertising patronage was large and influential, had issued requests (perhaps we might rather say commands) that the investigations of THE NEWS Commission should be sneered at or suppressed, under threat of withdrawal of advertising. Our information came from sources which we could not discredit, and though we were unable to obtain copies of the letters in question, we could not dis-

believe their existence, humiliating though the fact might be to professional journalism.

It seems that the able and independent *Pharmacist and Chemist*, published by the Chicago College of Pharmacy, was thus approached. So far from granting the request, *The Pharmacist* was led to repeat and carry out the investigations of THE NEWS Commission, with the result, as our readers know, of fully confirming them. *The Pharmacist* now follows this up, by giving in its August number the following interesting extracts from letters which it had received demanding the suppression and contradiction of the article in THE NEWS:

"The republishing of this article will do us great injury; therefore, being liberal advertisers with your journal, we have to ask that you will withhold its publication."

Another writes:

"This matter is of great importance to us, and an opportunity offers itself to you to render us and myself a favor which we will be most glad to reciprocate when occasion offers. Can you not then, taking the comments which we lay before you, come out and say something to restore the confidence of any of your readers which may have been disturbed by the absurd article in THE NEWS?"

And still another writes:

"We feel that the time has come when we must decide to withdraw our advertisements from all journals that take issue against our interests. The recent action of THE MEDICAL NEWS is a case in point, and we ask you if, in justice to ourselves, it is not right that we should expect that you will condemn the analysis as published by them?"

While thanking *The Pharmacist* for the manly and independent position which it has assumed in this matter, we leave to our readers to discuss the problem as to whether the primary allegiance due by a medical journal is to its subscribers or to its advertisers.

NEW TESTS FOR SUGAR—PICRIC ACID.

WHILE the methods now in use for the qualitative testing of albumen seem to be as satisfactory as one may desire, the same cannot be said of the tests for sugar in urine. What, with the reducing power over the oxide of copper which is possessed by uric acid, and to a less degree by other constituents of urine, and the action of creatinin and other substances in preventing glucose, even if present, from reducing the oxide of copper, it is evident that the copper tests which are at once the most delicate and convenient, are far from satisfactory.

In the face of these facts all reagents which are superior to existing ones are welcome. Unfortunately, not all tests which are claimed to be superior by their suggesters bear the test of trial by

others. Careful examination has satisfied us that two or three of those recently brought forward may safely be recommended to the profession as at least likely to be useful as comparative tests where doubt exists.

One of these, recently suggested by Dr. George Johnson (*Lancet*, March 17, 1883), is *picric acid*, the sensitiveness of which as a test for albumen has not long ago been alluded to in these columns. Picric acid is reduced to deep-red picramic acid by glucose when boiled with potash. To apply the test, a drachm of urine, a half drachm of liquor potassæ, and ten minims of a saturated solution of picric acid, the whole being diluted to three drachms by distilled water, are heated to the boiling-point and kept boiling for sixty seconds. If sugar is present, the fluid acquires a beautiful deep-red color, the depth of color being proportionate to the amount of sugar present. We have found half the quantities suggested by Dr. Johnson more convenient to work with, at least for qualitative testing.

For quantitative testing a standard solution is made by boiling together, for sixty seconds, a mixture containing one drachm of a solution of grape sugar containing one grain to the ounce, half a drachm of liquor potassæ, and ten minims of a saturated solution of picric acid, the whole being increased to three drachms with distilled water. The resulting color corresponds to an amount of sugar equal to one-quarter of a grain to the ounce.

For the purposes of a permanent standard, this color is exactly imitated by dissolving acetate of iron with excess of acetic acid. The color thus produced will then also correspond to that produced by a solution containing one-quarter of a grain of sugar to the ounce, when treated as above.

The above-named proportions of the suspected urine, liquor potassæ, and saturated solution of picric acid, the whole diluted as before to three drachms, are then boiled for sixty seconds and the resulting fluid compared with a column of the standard solution in a test-tube of equal diameter. When the color of the boiled fluid is deeper than that of the standard, it is diluted until they agree in tint. With these data the quantity of sugar may be evidently calculated.

If the urine contains more than one grain to the ounce, the quantity of the picric acid solution must be increased ten minims per grain; and if the urine contains more than sixty grains to the ounce, it must first be diluted by distilled water to a definite proportion.

This test is said to be quite unaffected by albumen, but a turbidity occurring in the process of testing, due to phosphates, must be filtered out. Dr. Johnson found identical results in analyzing the same specimens by this method, and by Dr. Pavy's

ammonio-cupric solution. We have tried it in qualitative testing and obtained distinctive reactions with urines containing but small quantities of sugar, but are not prepared to speak authoritatively of its relative delicacy. As to quantitative testing, we should infer that it would be only in the hands of experienced analysts that gradations of color should be relied upon in determining quantities.

In future issues we will describe other recently suggested tests for sugar.

COLD DRINKS IN HOT WEATHER.

VERY vague notions exist in the popular mind as to the use of cold drinks and ices when one is very warm and perspiring. There is a vague impression that they are harmful, but few know how or why. The fact is that the use of iced water as a drink, in moderate quantities at a time, even if often repeated, is not harmful, but advantageous to the over-heated and perspiring individual. By their use, the temperature of the blood and body is lowered, and the loss of water by perspiration is made up — two important safeguards against the effects of overheating.

But the ingestion of large amounts of iced water by the overheated may be harmful, and in more ways than one. In the first place, among the most frequent but less serious consequences of the use of such amounts of cold water is the result of its use at meals, when the deluging the stomach with cold water lowers its temperature below that at which digestion is best accomplished, and this important function stops or is retarded until the proper temperature is regained. Dyspepsias and diarrhoeas and possibly cholera morbus may be the consequence. The same results may ensue from the use of ice-cream and water-ices, and these truths apply, of course, to all seasons; it is simply that the abuse is more apt to occur in hot weather. We have more than once seen little children who have had attacks of vomiting after concluding a full meal supplemented by the free use of ice-cream, and we recall one instance in which convulsions supervened.

Another more serious consequence of the ingestion of large amounts of ice-cold water, and one which can perhaps only occur with an empty stomach, is sudden death. This, although a rare event, is still sufficiently frequent to make a word of precaution necessary with regard to its cause. This happens, as already intimated, when large amounts of ice-cold water are drunk on an empty stomach by an overheated person. Its action is doubtless through the nervous system. The nervous supply of the stomach is, by the pneumogastric and branches of the sympathetic, derived from the splanchnics and solar plexus. The former is the

motor nerve, whose operations are chiefly regulated by the central nervous system, and the latter may be termed the sensory nerves. The accident may be explained by supposing a sudden shock upon the terminal filaments of the sympathetic nerve carried to the solar plexus, and thence to the medulla oblongata; whence an inhibitory impulse is reflected along the vagi to the heart and stops its beating. The effect is analogous to that daily produced by the experimental physiologist by means of an induction shock applied at any part of the course of either vagus.

It is well known that when atropine is injected into the blood of animals experimented upon, the strongest induction shocks fail to produce this inhibition. Might not some practical use be made of this fact in cases of sudden heart-stoppage from this or other cause?

Another method of deleterious operation of the ingestion of large quantities of water, which applies of course to water at any temperature, has been suggested. It is that in the thickened state of the blood which succeeds the rapid transpiration of the water of the blood in hot weather, a condition favorable to the rapid absorption of large amounts of ingested fluid is produced. The effect of the addition of such a large amount of water to the blood is to promote a solution of the red-blood corpuscles—a haemoglobinaemia—which, of course, if extensive, must be incompatible with life. But we have grave doubts of the operation of such a cause as this. However rapid the osmosis, it must cease as soon as a certain degree of dilution of the blood is reached.

A very reasonable question is, What quantities, then, of ice-cold drink may be taken with impunity by a person overheated and perspiring freely? We answer that it is not so much a matter of quantity as rapidity. If the cold water is introduced slowly, a few mouthfuls, or even a half tumblerful, at a time, followed by the same quantity in a couple of minutes, we do not think it likely that any serious results will follow. It is our impatience in this, as in many other things, which leads us into danger, and if the proper precautions are observed, the American custom of taking iced drinks may not only be a harmless, but actually a wholesome as well as an agreeable luxury.

PRELIMINARY TREATMENT vs. QUININE.

In no part of the world has the change of opinion, in regard to the antiphlogistic treatment, been so complete and radical as in India. In an interesting paper on the subject of the treatment of remittent fever as it occurs in India, Dr. Norman Chevers compares the old practice of large and repeated bleedings, and mercury given to ptyalism, with the

modern method of quinine in full doses. It is hardly necessary to say that the latter is now the general practice in India as elsewhere.

There is, nevertheless, a practical question here in regard to the necessity of some preliminary treatment as a preparation for the administration of quinine. There is a belief, shared in by a good many excellent practitioners, that the curative effect of quinine is enhanced by such preparatory treatment. It is held that quinine is not properly absorbed when the tongue is heavily coated, the conjunctivæ yellow, the stomach in a catarrhal state, and the portal system congested, and that these conditions must be removed by the administration of mercurial purgatives. As these apparent complications are really the morbid complexus, and have the same significance as the fever, it would seem probable that the remedy effective against one set of symptoms ought to be equally so against the other. Experience confirms this, for if quinine be given suitably, with the disappearance of the fever the accompanying disturbances cease also.

It is important, however, to separate those symptoms due to the malarial infection from complications properly speaking. Complications determined by the systemic disturbance, and not a necessary part of the malarial disease, require appropriate treatment. The question in any case will be settled by the application of this rule. As an illustration of this we may take the condition of intense gastro-enteric irritability, which, preventing the absorption of quinine, requires well-directed preliminary treatment.

TUBERCLE-BACILLI IN DISCHARGES FROM THE EAR.

THE most recent seat of demonstration of the presence of the bacilli of tuberculosis appears to be the middle ear. DR. ESCHLE in the *Deutsche med. Wochenschr.* for July 25th, reports two cases in which the discharge from suppurative disease of the middle ear contained bacilli. In one there was concurrent advanced tuberculosis of the lung. It is interesting to note that the discharge, for several days, presented the appearance of "blue pus," said to have been observed but twice by Politzer in his experience with discharges of the ear.

In the second case, that of a boy, although there had been scarlatina, nephritis, diphtheritis and suppurating lymphatic glands, physical exploration of the chest gave negative results, and the perforation of the tympanum subsequently closed. Myringitis and otitis externa continued, and bacilli continued to be found in the discharge.

The bearing of these observations on the possibility of the existence of tuberculosis of the middle ear—supposing a necessary relation of bacilli to tubercle—is evident.

REVIEWS.

A SYSTEM OF HUMAN ANATOMY, INCLUDING ITS MEDICAL AND SURGICAL RELATIONS. By HARRISON ALLEN, M.D. SECTION IV. ARTERIES, VEINS, AND LYMPHATICS. 4to. pp. iv. 335-438. Philadelphia: Henry C. Lea's Son & Co., 1883.

We can congratulate its accomplished author on the steady progress of this book—a genuine storehouse of anatomical knowledge and of its applications to medicine and surgery. No other work with which we are acquainted exactly fills its place. Its descriptions are none too long, and its remarks on the bearing of the anatomical facts on the numerous pathological conditions, whether frequent or rare, are of the utmost value to the practitioner. Many a case involved in more or less obscurity will be cleared up to him if he will refer to the observations on the variations, and the clinical relations of the structures involved. Especially is this true in the interesting notes on the zoölogical analogies to variations in human anatomy and on the development of the fetus. In noticing the previous sections, we have so frankly and so forcibly expressed our opinion of the value of the book, that it would be but iteration to say it anew of each part.

But as with the Seven Churches of Asia, we must say of every part "Nevertheless I have somewhat against thee"—errors to be corrected in the second edition, which we doubt not will soon be demanded.

The plates are greatly improved over the other sections. The color printing is admirably done, and the finish is better. Still many of the names appear indistinct, and there are faults, some of which are simply blemishes, but others are serious errors. Thus, in Pl. lxi. Pneumogastric, in Pl. lxx. Tendo Achillis, and in Pl. lxxiv. Hæmorrhoidal, are all misspelled, and in Pl. lxx. "Interossea Art." should be either "Interosseous Art." if English, or "Art. Interossea" if Latin.

But anatomical errors are more serious, and we were quite startled, in Pl. lxi. Fig. 2, to find a subject showing both common carotid arteries on the left side of the neck, and a branch from the right common carotid just above the clavicle, the distribution of which is left to the imagination, as it well may be. In Pl. lxx. the number of terminal slips, both of the extensor longus and extensor brevis digitorum, is inexact; and no one, we are sure, can trace the connection of the belly and the tendon of the extensor proprius pollicis. Plate lxxvi. Fig. 2, makes the internal carotid artery spring from the aorta, and shortens and displaces the internal jugular vein in a way that cannot be accounted for by the pose of the head and neck. The student will often be puzzled to recognize unlabelled structures, as in Pl. lxx. the slips of the extensor brevis. Fig. 84 gives us a very long, unlabelled superior intercostal vein, or azygos minor, as it is often termed, in distinction from the hemiazygos (though usage is not very uniform as to these names), while Pl. lxi. makes the hemiazygos empty very high up and into the cava, and not into the azygos major, as in Fig. 84; and in Pl. lxxi. the external jugular is not labelled, though the anterior is.

Of the text, we have little to say but praise. On p. 402, Dr. Kelley's recent paper on the double femoral artery should surely have been referred to, or the account in Henle's *Anatomy*, rather than Sir Charles Bell's single case, in 1826, and Mr. Houston's, in 1827. On p. 411, the interosseous arteries are termed digital; the definite, fixed order of relation of the posterior tibial artery and nerve and the accompanying tendons behind the inner malleolus (p. 408) is not clearly stated; and on p. 398 it is said that, when the obtu-

rator artery skirts Gimbernat's ligament, it "would in this position, of course, be wounded in operating for femoral hernia," instead of "it may be wounded."

But, *per contra*, no one unless he has made a book, especially one with many and intricate plates, can possibly know how hard it is not to make some errors. Happiest he who makes the fewest.

ABDOMINAL HERNIA. By RUSHTON PARKER, B.S., F.R.C.S., etc. 8vo. pp. 56. Liverpool: Adam Holden, 1883.

THREE ideas seem to dominate this production, viz., it is not good to feed patients with strangulated hernia; it is not the strangulation of omentum which proves serious in so-called omental hernia; it is wise to attempt a radical cure in operations of herniotomy, by ligating the peritoneal layer of the hernial covering close to the abdominal opening, after reduction of its contents.

If there be, in the way these ideas are presented, any merit which outweighs the disadvantages of the author's style, we have not discovered it.

The monograph is unsystematic, incomplete, tiresome to read, and unremunerative when read.

SOCIETY PROCEEDINGS.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday Evening, June 28.

THE PRESIDENT, JAMES TYSON, M.D., IN THE CHAIR.

DR. J. S. MUSSER presented

A SPECIMEN OF RENAL CALCULUS, OXALATE OF LIME, with the following history:

R. R., æt. 32, a stone-cutter, residing one year in Philadelphia, applied to me for treatment June 5, bringing with him a sample of his urine. It was bloody, and had been voided without pain during the twenty-four hours prior to this visit. Three months ago, without any cause, he was seized with pain in the left loin. The pain increased in severity, kept him from work, caused faintness, but no nausea or vomiting; did not radiate in any direction, save transversely to a slight extent; lasted three days, and was not followed by hemorrhage. In the intervening three months he was in good health. A jar of the body or any movement did not increase the pain. It may be noted, but is rather irrelevant, that for ten or more years he has always had a weak back, becoming painful when stooping.

Twelve hours after the consultation this same localized pain recurred, and continued for twenty-four hours. Suddenly it was relieved, and the subsequent urinary discharges were clear. In three days, he had a return of the pain and hemorrhage simultaneously. The pain increased in severity, and at the height of the paroxysm extended to the testicles and the head of the penis. The paroxysm was relieved by the passage, of the calculus I show you, by the urethra. The passage of the stone through the ureter was characterized by the most agonizing pain and frequent attempts to urinate. Microscopical examination of the first sample of urine showed the red color to be due to blood. A similar examination of his clear urine, as well as the bloody, proved the presence of urate of soda and crystals of the phosphates. The urine was acid. The diagnosis of renal calculus was not difficult, but the microscopical appearance of the urine led me to infer that the stone was composed of uric acid. With such ideas, the patient was put on alkaline treatment. The sequelæ proved that the solvent effect of such treatment was of

no avail, save from the diuretic action of the drugs. Morphia was given to relieve pain.

A portion only of the stone was received, an angular portion having been broken off by the patient. The portion weighs sixty-six grammes. The exterior is tuberculated; the interior dark, in color bluish; the exterior laminae light-brown. It is exceedingly hard. Chemical examination was made by Dr. Leffman, who reported it to be an oxalate of lime calculus.

HAEMATOMA IN THE UPPER PORTION OF THE MEDIASTINUM PRODUCING DEATH BY SUCCINATION.

DR. J. T. ESKRIDGE said that he obtained the specimen from a colored man, porter, aged thirty-two years. He had led an irregular life, but it was not positive that he had ever contracted syphilis. During the past winter he suffered from a severe cold on the chest, and was told by his physician that his heart was inflamed. With the exception of a slight cough, unattended by any difficulty in breathing, he had considered himself in excellent health. On June 10, 1883, after carrying a heavy trunk on his shoulder from the first to the fourth floor of a hotel, at Cape May, he was seized immediately with great difficulty in breathing, and was compelled to seek the open window to prevent suffocation. During the next two days, while still remaining at the sea-shore, he suffered from several attacks of shortness of breath, each lasting from several minutes to an hour or more.

He was admitted to the Hospital of the Jefferson Medical College on the evening of June 12, about sixty hours after the occurrence of the accident. On admission, his breathing was so labored that he was unable to speak. He was gasping for breath, and bathed in profuse cold perspiration. Respiration 36, with greatly prolonged expiration; pulse 100; temperature 99.7° . Inhalations of amyl nitrite, and the hypodermic use of morphia and brandy seemed to give relief. The attack lasted about twenty-five minutes. He slept well during the night, and was tolerably comfortable until 5 P.M. the next day, when he had another paroxysm, which was promptly checked by amyl nitrite, morphia, and dry cups to the chest.

June 14, A.M.—Dr. Eskridge saw him for the first time. The patient was breathing quietly, and said that he felt comfortable. Pulse and temperature were nearly normal; urine contained neither albumen nor sugar; no cardiac murmur was detected; lungs were hyper-resonant at their apices. Loud, moist bronchial râles were present throughout both lungs. In view of the man's former freedom from attacks of dyspnoea, he thought that he detected nothing capable of giving rise to so great interference with respiration. The next two days no dyspneic attacks occurred, and he seemed to be doing well.

17th.—His breathing was distressing for several hours. Nothing seemed to afford much relief.

18th.—Severe asthmatic breathing came on at 6 A.M., and lasted in its worst form about six hours. Chloral hydrate gave some relief. After that paroxysm his breathing did not again become quiet. He died, exhausted, at 7 P.M. the next day. With the exception of occasional headache, he did not complain of pain at any time.

Sectio cadaveris was made by Dr. Parrott, the medical resident, the pathologist of the hospital and Dr. Eskridge being absent from the city at the time.

Thorax—pericardial sac was completely obliterated by old, firm adhesions between the pericardium and heart. The heart was rather fat, and both ventricles were relaxed and contained considerable dark fluid blood. Valves nearly normal. Both pleurae were adherent to the upper portion of the pericardium, and the left pleura was everywhere adherent to the lung.

Both lungs were emphysematous at their apices, and considerable lobular emphysema existed. Bronchial tubes were congested and contained considerable mucus. A semi-solid, or rather soft oblong body, about two inches long, by one and a half wide, was found lying upon the lower anterior surface of the trachea, embedded in connective tissue, and firmly held by old adhesions. It occupied a position just above and behind the transverse portion of the arch of the thoracic aorta. Three of the rings of the trachea in the position where the greatest pressure was exerted by the semi-solid mass presented a dark color, and one of the spaces between the discolored tracheal rings was nearly ulcerated through from the effects of pressure. On cutting into the tumor, it was found to consist of blood, more or less clotted. The calibre of the trachea was greatly lessened at the seat of hemorrhage. No ruptured bloodvessels were found. No disease was observed in any of the arteries. Abdominal organs were nearly healthy in appearance.

DR. ESKRIDGE, in his remarks on the case, said that numerous cases of rupture of the aorta, or of smaller bloodvessels, into the trachea, bronchi, oesophagus, or mediastinum, were on record, but in all of them, so far as his knowledge went, death resulted directly from loss of blood. The peculiarity of the case, of which he had given a description, was the formation of a haemato-ma in the mediastinum. In hemorrhages into that space, the blood usually gravitated to the lower portion of the chest, and the patient soon died from loss of blood. In the case he presented, however, on account of extensive old and firm adhesions of pleural and pericardial connective tissue, and everything else in the upper portion of the mediastinum, a hemorrhage in that situation must necessarily have been circumscribed, and could have taken place only gradually by dissecting up the adhesions. He thought that the condition of the parts that prevented an extensive hemorrhage predisposed the smaller bloodvessels, especially the veins, of that locality to rupture. In view of the extensive alterations, by means of general adhesions, that had taken place at the seat of hemorrhage, it was not surprising that rupture of a bloodvessel should have occurred, when the parts in the anterior region of the neck and upper portion of the chest were suddenly put upon the stretch as occurred in the act of raising a heavy trunk from the floor and placing it upon the shoulder. From the specimen, as he obtained it, he was unable to say whether the hemorrhage had occurred from a rupture of the aorta or one of the smaller vessels, or from the bursting of a very small vessel that had become aneurismal. The tearing across of small veins would have been sufficient to give rise to the extravasated blood.

DR. NANCREDE presented a

CONGENITAL FATTY TUMOR BENEATH OCCIPITO-FRONTAL MUSCLE.

The tumor was simply presented on account of the rarity of such growths of *fatal origin*. The patient was a child aged sixteen months. The growth was noticed at three weeks, and in consequence must have been of foetal origin, as it then was of the size of a bean. It presented none of the symptoms of a fatty tumor, except a faint lobulation, the skin moving freely over it, and presenting none of the dimpling so common in lipomata. Its site was peculiar for a dermoid cyst, viz., over the right occipito-parietal region, yet its resemblance was so close, that by exclusion it was considered to be a congenital cyst. Upon removal it was seen to be distinctly beneath the aponeurosis of the occipito-frontal muscle. Microscopic sections kindly made with the freezing microtome by Dr. N. G. MacConard showed that the growth was a pure lipoma.

DR. NANCREDE also presented an

ADENOMATOUS GROWTH APPARENTLY RECURRENT: IN REALITY AN OUTLYING PORTION OF THE MAMMA NOT REMOVED AT A PREVIOUS OPERATION.

The above title really gives the essential points in the history of a patient, aged twenty-three years, upon whom two operations had been performed for a supposed fibroma (adeno-fibroma?) of the breast, which recurred after partial removal of the breast; the whole organ was supposed to have been then removed by another surgeon. Dr. Nancrede had opposed all operations at first, considering the breast was really not the seat of anything beyond a local induration after injury. He had subsequently removed the third growth, which, from its history and microscopic appearances, he was satisfied was the result of the irritating drag of the badly placed cicatrix on a small portion of breast tissue left at the second operation. The clinical lesson taught by this case was clear, viz., the freest possible removal of mammary growths.

DR. HENRY presented specimens from a

CASE OF ACUTE PHOSPHOROUS POISONING,

consisting of stomach, liver, kidneys, heart, and spleen. The phosphorus was taken with suicidal intent, during the night of May 7th, and was obtained by soaking the heads of a box of matches in water. Fifteen minutes after swallowing the solution, the patient, a male German, at 22, experienced a burning sensation in the stomach, which, in the course of a few hours (about six), steadily increased until the pain became excruciating. Copious and repeated attacks of vomiting then ensued, and followed every attempt to allay thirst, which was excessive. On the 8th there was a very loose discharge from the bowels.

The patient was admitted to the hospital on the tenth. His skin was sallow and dark, but not then icteric in hue. There was tenderness over the liver, and the line of liver-dulness was slightly increased. Severe pain in the abdomen was complained of, and this pain had continued with occasional intermissions since the 8th. The pulse was full and strong, 84 per minute. The temperature was 100°. The urine contained considerable albumen, but no casts, nor other abnormal ingredient. I extract the following from notes taken by the resident physician, Dr. James S. Carpenter.

May 11.—No pain. Pulse 100, temperature 98½°. Patient refuses food, but craves acid drinks.

12th.—Vomited once, but phosphorus not tasted by the patient as heretofore. Pulse 108, and weaker. Temperature, which was 101° on the evening of the 11th, now 98½°. Decided icterus. Thirst continues.

13th.—Jaundice increased; tongue dry and brown; red at edges; abdominal wall covered with numerous petechial spots. Pulse 126, temperature 100°.

14th.—Intense jaundice; one clay-colored stool; pulse very weak—132; temperature 98½°; extremities cold; bladder relieved by catheter; forty-eight ounces removed. The urine contained bile-pigment in large amount, and had a strong odor of phosphorus. The man died at 11.40 A. M., one week, less fourteen hours, after taking the poison. As the patient was not admitted until the third day after he had swallowed the phosphorus, the treatment was directed towards relieving pain, and retaining the strength as far as possible.

At the autopsy, which was made very soon after death, the stomach was found filled with a grumous, bloody fluid, but the gastric mucous membrane was quite pale and free from erosion or any sign of inflammation. The folds of mucous membrane upon its surface were, however, unusually prominent. The liver weighed three pounds fourteen ounces. The

anterior border of right lobe and the parts adjacent to the gall-bladder were yellow-mottled. Streaks of this yellow coloration extended along the borders of the fissures on the under surface. In parts, these streaks were an inch in width. The bulk of the liver was normal in appearance; gall-bladder was empty; heart rigid in systole; its valves healthy; slight pericardial effusions.

Lungs—some old pleuritic adhesions and emphysematous vesicles at both apices.

Spleen and kidneys apparently healthy; blood fluid. A microscopical examination of the liver will be made and reported upon at a future meeting.

DR. J. H. MUSSER presented for Dr. R. M. Givin the specimens from a case of

CARCINOMA (SCIRRUS) OF THE BREAST,

with the following history: In November, 1882, Miss —, a lady, of good circumstances, with a hereditary tendency to carcinoma and scrofulosis from the mother, noticed, at the upper portion of her breast, a small, extremely tender lump, the size of a hickory nut. The nodule increased in size, and on the day of removal—February 17, 1883—was as large as a duck's egg, in the first position mentioned. Neither at that time nor at any other time was the nipple either diseased or retracted, or the mamma discolored. The breast had never been injured; the lymphatics were not involved; the general health and nutrition were good.

The operation was performed on the above date by Dr. Givin on account of severe paroxysmal pain. So severe was this symptom that a slight opium habit developed. The wound healed nicely: there has been no return of the disease (May 20).

Examination of a section of the hard mass in the gland demonstrated it to be a scirrhus.

DR. G. DE SCHWEINITZ presented a

TUMOR OF THE SCIATIC NERVE,

taken from an inmate of the University Hospital, who gives the following history:

On June 16, 1864, owing to a gunshot wound of the right thigh, he sustained an amputation of that member at the junction of the middle with its lower third. The flaps sloughed, and a few weeks later a reamputation became necessary. This stump healed, but was somewhat conical in shape, and was never comfortable from the very beginning, being subject to frequent attacks of severe neuralgic pain. Within a year from the date of the amputation, a small lump, tender to the touch, was noted, situated posteriorly and a little to the outer side of the stump. The pains now became more severe and more frequent, and were of a "jumping" character, to use the patient's own language. The tumor increased slowly in size, until three years ago, when its growth became more rapid, and at the same time the painful nature of the affection more pronounced, until lately the suffering was well-nigh unbearable. Finally the growth assumed the size which you see it now presents, and on the 12th of last month, Dr. Ashhurst removed it, since which time the patient has been free from all pain, except that which naturally accompanied the healing of his wound.

The growth is an irregularly shaped mass, about the size of a small hen's egg, having an external envelope of adipose tissue, loosely held together by connective tissue. On section, the interior is seen to be a somewhat elastic, rather dense-looking growth of whitish color, over which pass a few yellowish fibres, probably strands of the sciatic nerve. Microscopic examination of the true tumor mass shows an entire absence of any nervous elements, a section exhibiting fat cells, fibrous tissue, some spindle cells, and numerous free nuclei near the enlarged and dilated

bloodvessels. The tumor would, of course, be classed clinically as a neuroma, following amputation, while in truth its pathological nature is that of a fibroma. It is interesting that a growth causing so much pain should be without any demonstrable nervous endowment; and surgically it is further worthy of note, because its removal was attended with immediate and probably permanent relief to the patient, a desired result which is by no means always obtained by the excision of these growths.

THE BACILLUS TUBERCULOSIS.

DR. LAURISON, by invitation, made some remarks upon the bacillus tuberculosus, and exhibited a number of specimens. He said that he did not employ nitric acid in preparing his specimens, as it seemed in many cases to bleach out all the bacilli from the tissues, but formic acid, in the proportion: Acid formic, one part; alcohol, two parts. It was a curious fact that the bacilli occurred in patches, while in other parts, apparently equally diseased, they were present in small numbers.

CORRESPONDENCE.

ACUTE TONSILLITIS, AND ITS TREATMENT BY BICARBONATE OF SODA.

To the Editor of THE MEDICAL NEWS.

SIR: In THE MEDICAL NEWS of August 11th I find a very interesting article on the treatment of tonsillitis, the writer recommending the compound guaiac gargle, and constitutional treatment if called for. About a year ago I saw a paper on this very subject in your JOURNAL, advocating the use of the bicarbonate of soda, which I have used ever since with remarkable success, so much so that in only one case, out of fourteen cases of acute tonsillitis which I treated in this manner, did suppuration occur. Of all the cases which I have thus treated, permit me to relate the following typical case, which will serve to show the value of the drug in this affection.

On the 20th of last November, a young man aged twenty-two, German, while working as a farm hand in a malarial region, came to me with the following history. Two days ago (on the 18th), he had had a slight chill, which was followed by a light fever; with this he experienced some pain upon swallowing. The constitutional and local disturbances grew constantly worse, till he decided to see me. Upon examination I found the tonsils and fauces so inflamed, and tonsils so enlarged, that deglutition was not only exceedingly painful, but almost impossible, as a large portion of the liquid food (the only kind of which he could partake) would, in the act of swallowing, regurgitate through the nostrils. He could not open his mouth over half an inch. Respiration was painful and more frequent than normal. Temperature 102°, pulse 108. Phonation was painful, and voice so changed as to render it difficult to understand him. Saliva accumulated constantly in large quantities in his mouth. I blew, by means of a glass tube, bicarbonate of soda on the inflamed tonsils and fauces, and ordered cold towels to be applied to the neck. Besides this, he took five grains of quinine every four hours. Next morning there was little or no fever, and the inflammation of tonsils was subsiding. I applied four times in three days the bicarbonate of soda in the manner described (which may, however, also be applied with a camel's-hair pencil), and the inflammation had entirely subsided on the fourth day. No suppuration occurred.

In my opinion, bicarbonate of soda is a valuable remedy in acute tonsillitis, but it should be applied thoroughly, and at least once or twice in twenty-four

hours. If resorted to in time, it will almost invariably prevent suppuration.

Respectfully,
Sr. CHARLES, Mo., August 16, 1883.

A. H. VINKE, M.D.

MEDICINE IN CHINA.

To the Editor of THE MEDICAL NEWS.

SIR: It is desired to call attention to some medical facts which came to my knowledge during a recent visit to China.

I do not propose to treat of Chinese medicine, *per se*, but simply to state a few truths of the general practice of our art by our colleagues, American and English, now residents in that country.

I will confine my remarks more especially to the city of Tien Tsin, in Pi-chi-li, northern China.

As regards the practice of medicine among the Chinese themselves, there is none, according to our ideas.

It is true, they have many medicine-men throughout their vast possessions; but these must be classed under the head of charmers, charlatans, and quacks, *et al.* There is an absolute ignorance of all that pertains to anatomy, physiology, and chemistry, and such knowledge as necessarily belongs to the healing art. Thus, I repeat, there are no medical practitioners among the Chinese, as a people, worthy the name. They have no *materia medica* to which one can refer for a history, classification, and properties of their drugs; no *pharmacopoeia*, so far as I am aware.

The vaunted qualities and excellences of many of their nostrums are set forth in local pamphlets, similar in kind to the advertisements of irregular doctors in other countries. But no official or national preparations of vegetable or mineral substances exist. In their drug shops they have a large number of dried plants, from which they prepare extemporaneously various teas, effusions, and lotions; also, powders and plasters. They do not appear to use tinctures of any kind; in fact, so far as the preparations in the stores go, no fluids are to be seen.

Of course, opium, camphor, rhubarb, gamboge, gentian, and catechu are found, and it seems that some of the virtues of each are understood and appreciated. From all indications, however, their whole plan of treating disease is empirical, and borders very much on the miraculous and the witchcraft order. Of surgery, their knowledge and practice are most primitive, as can readily be surmised after the statement, that they know nothing whatever about anatomy. This must continue to be the fact so long as the Chinese hold religious beliefs as now, for this all-important branch of medicine cannot be studied practically, as no dissections are allowed by their laws. It is hoped that some of the Chinese students in the United States will take up this study at the colleges where they are being educated, and that upon their return to China they may put the knowledge thus acquired into practice in a surgical sense. But, until the Chinese idea as to the great hereafter is materially changed, there will be no advance in the study of practical anatomy.

The existing fear and veneration of their dead make any attempt at examination of a cadaver quite out of the question at present.

It is this religious dread of disturbing the spirits which they declare remain near the bodies of their dead ancestors, that constitutes one of the great objections to the building of railroads in the Flowery Kingdom.

No Chinaman will permit, if he can prevent it, any tampering with the body of a relation or friend; or

even with the grave of such, as would necessarily be the case in the construction of a highway, as he believes the eternal happiness of the defunct, as well as his own earthly existence, depends, in great measure, upon certain religious functions which he and his family observe, from time to time, near the sepulchre or body of the deceased.

In all the foreign settlements in China, as might naturally be expected, are resident physicians from the various quarters of the world; and in the more prominent towns are to be found men of fine abilities and considerable experience. To these the educated and well to do Chinese in the immediate neighborhood frequently apply when urgently in need of medical assistance; but, in proportion to the immense masses of the people, these few are numerically as drops to the ocean. Owing to the physical hardships which almost every Chinaman experiences in early life, those who live to the age of puberty are like the Indians of this continent—about impregnable to ordinary ailments. In other words, only those endowed with strong constitutions and great vital powers are likely to survive childhood and youth. The feeble of body are exceedingly likely to perish in the early struggles for survivorship.

It is amusing, and not a little interesting to a foreigner, to witness a Chinese doctor examining a patient. The scientific gentleman takes very few minutes to make a diagnosis; for it is of some moment to him, that he recognize, so to speak, at a glance, where the disease exists with his patient; otherwise, his reputation might suffer.

The doctor looks at the invalid through his glasses—no Chinaman can be adjudged intelligent or learned, by his countrymen, unless he wears spectacles, and the larger they are the more important and respectable the practitioner is presumed to be—and at once demands where the trouble is, and immediately after the sufferer has indicated the seat of difficulty, the learned gentleman exclaims, "Oh, yes! I knew it was just there;" and he then examines both radial pulses, first the right and then the left, and confirms the diagnosis by stating that the pulse of the side affected beats so differently from that on the sound side. This settles the matter, in the opinion of patient and physician, and without further ado the treatment is advised and put into practice.

In the great majority of cases the foregoing is the entire routine of examination. Any additional rational or physical exploration is rarely observed. The Chinese practitioner resorts to measures to make known his fame and medicines, which bring vividly to mind the modes of procedure taken by certain itinerant doctors in this land of freedom. He selects a prominent part of the city or town for his office; puts out his conspicuous signs and promises in the most public positions; has one or more sedan-chairs—corresponding to our carriages—with gaudily-dressed carriers, and employs men to run about the principal streets to attract as much attention and cause as much commotion as possible. When not engaged in his office, he has his servants carry him at the top of their speed through the crowded thoroughfares, it being an important part of their functions to ask, or demand, that all passers get out of the way for the famous doctor Wing Lung, who cures all manner of diseases, is in great haste to see a dying man whose life he has promised to save. And it is a portion of their usual programme to have a body of retainers rush about the town, demanding if any one has seen the mighty doctor Wing Lung, as he is wanted at once—"here, there, everywhere?" One point in their practice is worthy of consideration; when they are actually called to see, or prescribe for a patient, and not on dress-parade business, it is an invariable

rule to obtain the usual fee before acting. Pay in advance for all advice is a cardinal point which is not overlooked, no matter what the circumstances.

Counter-irritation is very popular with the profession and the laity; the actual cautery, rudely applied, is frequently put into service. Setons, blisters, and caustics are also favorite modes of "making impressions." Tiger-claws and teeth in powders, dried toads, lizards, snakes, and bugs are prominent in the armamentarium of the celestial physician. Urine from a youth is judged to be a tonic; and the excrement of various animals finds notable places in the *materia medica* of this people. It is to be remembered, that the Chinese woman lives an almost excluded existence. Upon no account can a man, not a relative, be permitted to see, much less to touch her, no matter how ill she may be. Domestic practice has to do for her case, and if there are exceptions to this law, they are so few as to be isolated and unknown in the great mass of cases. If there were no other reasons for the Chinaman's constant thanks to the power that made him a man, this well-known unrelaxing custom would seem to be sufficient cause for his gratitude. This brings me to speak of a lady physician, now resident in Tien Tsin, in the vice-royalty of Pi-chi-li; and certain circumstances connected with her labors among our celestial friends. It scarcely need be mentioned in this paper, that there are no Chinese female practitioners of medicine; not even "irregulars" of their own stamp. For reasons already given, the gentle sex has an exceedingly tough time of it when ill; indeed, this statement may describe her life in its entirety. Even in child-bed, the unfortunate woman, be she rich or poor, has no assistance as we are accustomed to afford a patient in that state. It is the fact, that she is surrounded by the women of the family, who, as a rule, let nature take her course; but should there be difficulties, such as an arm presentation for instance, summary measures are instituted; and if either mother or child escapes with life, the fact may be regarded—as indeed it is—marvellous and noteworthy. That such should be the case is not difficult to understand, when we are told that the usual mode of procedure in such an event is to push the protruding arm back into the uterus if possible; otherwise, it is cut off; and to aid in the delivery, the expectant mother is sat upon by one or more individuals, or she is pulled about the floor, or both successively. We have no knowledge as to how they manage post-partum, or, in fact, any hemorrhage. Statistics of any kind are not recorded for the benefit of foreigners, as regards the practice of medicine; save the reports given by the custom house physicians, and those voluntarily made by the missionary and other regular practitioners, we have no data concerning vital statistics in China. Whatever knowledge and experience a Chinese doctor may acquire, he keeps it to himself, so far as the outside world knows. As concerns the diseases and most else of Chinese women, we are utterly in the dark.

To return to our lady physician, Dr. Howard. This lady was educated at Ann Arbor, Michigan, and, eventually graduating in medicine, was sent to the East Indies as a medical missionary by one of the American societies. Her first field of duty was at Pekin, the great capital of the Tartar rulers of China. As it is a well-known fact, with all mission-work in that conservative land, Dr. Howard's labors were making very slow progress when an event occurred which has actually made a revolution in the field of medical possibilities in the last. It will be well to give, somewhat in detail, an account of the circumstances which have resulted in so much good to the people interested. We all know that Li Hung Chang is the viceroy of Pi-Chi-li, one of the great political divisions

of the Chinese Empire, and is the absolute master of over 20,000,000 of beings.

He resides in the imperial city of Tien Tsin, the port of Pekin, situated on the Psiho river, some sixty miles from the sea, and about eighty distant from the capital. Now, Li Hung Chang, in addition to being governor of the said province, is one of the senior generals of the empire; in point of fact, he is the most distinguished military mandarin in the country, and commands by far the most formidable body of troops in the army. Moreover, Li is in reality the head of foreign affairs of China, and wields a mighty influence in the government, both as regards her domestic and outside policy.

This viceroy is a progressive man, and encourages the advancement of foreign ideas and measures among his countrymen, as far as is consistent with their great conservativeness. He is necessarily obliged to go very slowly in a land where 350,000,000 of people look with a jealous eye on any change in a programme which has predominated with them all from time immemorial. Well, the principal wife of Li Hung Chang was ill, and her family became much alarmed about her. At this time—1880—it so happened that the viceroy had a friend in high esteem, Mr. Pettie, a former vice-consul of the United States at the port of Tien Tsin, for whom he sent to ask advice in the hour of distress. This gentleman appeared promptly, and had the circumstances explained to him: he lost no time in urging the governor to call in a foreign doctor. A more radical idea could scarcely have been proposed to any Chinaman; and it is quite within the bounds of possibility to say that, had any of the king's subjects made such a proposition, he would have been decapitated at once for his temerity. The American argued that if the facts were as stated by the attendants of Lady Li, she would soon perish unless intelligent and professional assistance came to her relief at an early moment.

The viceroy is a markedly learned man, and it required no great amount of explanation to make clear to his mind that prompt action was demanded in the premises, and he sent for Dr. Mackenzie, an English physician, attached to the London Mission, living in the foreign settlement near Tien Tsin. The doctor lost no time in obeying the imperial mandate, and, once in the Yamen, Mr. Pettie soon put him in possession of the main facts of the case.

As Dr. Mackenzie speaks the Chinese language markedly well for a European, he was not long in making out what the trouble was—viz., prolapsus of the uterus. It must here be noted that the physician was not permitted to see the illustrious sufferer. Such an idea—a man, a stranger, and a foreigner to go into a lady's room—was not to be considered for an instant, not even by so radical a Chinaman as Li Hung Chang. Thus the doctor remained in an out-room, and explained, as best he could, to the invalid's women-folks, the means to be taken to replace the organ in its proper position. But partly through fright, partly through want of knowledge and skill, and the usual difficulties attending such an operation, it was found impracticable to restore the parts to their normal condition, a fact not very marvellous, all the facts considered, to any one familiar with the subject.

In this dilemma, Dr. Mackenzie bethought him of Dr. Howard, the lady whom we mentioned a moment since, who was not only a friend of the doctor, but a colleague, then living in Pekin. He explained the situation to the viceroy, and asked if there would be any objections to this lady's assistance being invited. Li Hung Chung consulted with his advisers and Lady Li, and it was shortly determined that the lady physician should be summoned.

Dr. Howard came down those eighty miles in a springless, two-wheeled cart over one of the roughest roads on this or any other world; and getting at once a synopsis of the case from Dr. Mackenzie, she went to the patient, and quickly succeeded in returning the displaced organ, thus making the lady comfortable, and putting her friends mentally at ease. Lady Li was not long in recognizing the service done her by Drs. Mackenzie and Howard, and a warm friendship sprang up between the latter and her royal patient from their daily intimacy, for Dr. Howard remained in Tien Tsin to take care of Lady Li. Handsome and valuable presents were the least of the benefits coming from this incident. Li Hung Chang also appreciated the labors of the Caucasian physicians, and, what is more, the intelligence and system of which they were the exponents. He became interested in foreign medicine, and being, as already stated, a go-ahead man in every sense, began to encourage the work of Dr. Mackenzie, who was laboring assiduously among the invalid poor of the city, in connection with his mission. Dr. Mackenzie became the medical adviser of the viceroy, whose influence quickly had its effect upon the members of the court and other prominent people. This good physician was allowed to hold a clinic at one of the large temples in Tien Tsin, to which flocked, by hundreds, the lame, the halt, and the blind males of the neighborhood. It is to be stated that the doctor had a small dispensary on the outskirts of the foreign settlement, where he treated, gratuitously, such invalids as came for assistance, the London Mission supplying medicines, appliances, and instruments to a certain extent. In this contracted place, he saw and prescribed for hundreds of sufferers during each month; did such surgery as was consistent with out-door practice, and even, at times, performed major operations in extreme cases, feeding and providing for the invalids at his own expense. Having installed himself in the temple, as mentioned, and being thus under the immediate protection of the viceroy, patients came in crowds to receive aid and advice. Li Hung Chang did not do things by halves; he granted a sum of money with which to purchase medicines, and agreed to pay for any and all instruments that the doctor might need in this practice. And this was not all; for seeing and recognizing the wonderful interest that the viceroy evinced in foreign medicines, his followers and subordinates set about raising money to build a hospital for Dr. Mackenzie. A sum sufficiently large was soon accumulated to pay for such an institution as proposed, and in a short time it was commenced. This hospital was built by Chinese carpenters, and, to allay as many prejudices as possible, the native ideas of architecture were followed, save in minor particulars. It was finished in November, 1880, and, on December 2d, formally opened by the viceroy in person, assisted by various Chinese officials of high rank, in the presence of all the foreign consuls, distinguished citizens, and representatives of the several ships of war then in port. His excellency Chung Tso Ju, the present Envoy Extraordinary and Minister Plenipotentiary from the Court of Pekin to the United States, Spain, and Peru, who was at the date mentioned Iatai of Tien Tsin, and one of the prominent lieutenants of Li Hung Chang, took an active part in supporting this foreign institution by his great influence and wealth. The hospital contains about forty beds, having the necessary dispensary, waiting, operating, and lecture-rooms.

Without going into the details of its peculiar arrangements, it may be admissible to state that the character of these beds is one of the most curious of its features. They are constructed of large bricks set in mortar, having a fireplace beneath each, in which straw, hay,

and brush, are burned for heating the whole. Thus, each patient has his own fire by which all his food is cooked in utensils furnished by himself. Now, when a Chinaman takes to one of these beds, which might, with propriety, be termed a brick-oven, he immediately proceeds to divest himself of all clothing down to the skin; nothing remaining on the body save, it may be, a piece of cloth about the loins. He then places himself between two thick, coarse, plank-like quilts, with his neck upon a wooden pillow. This is the Chinese fashion of preparing for and going to bed, and although it has drawbacks, yet it allows, certainly, of free inspection of the individual at a moment's notice. And let it be remembered, that for nearly half the year the climate of Tien Tsin is arctic in severity, there being no artificial heat in the building save that derived from the burning brush or straw in the small fireplaces beneath the so-called beds, which does little to raise the general temperature of the wards. It is not uncommon for operations of magnitude to be performed in an almost freezing temperature, the patient being nearly nude, which fact illustrates, in a measure, the great vital powers of this hardy people.

At the dispensary in the temple, some two hundred or two hundred and fifty out-patients were seen and attended four times weekly, a record being kept of each by Dr. Mackenzie, assisted by several Chinese students, who were at that time studying the rudiments of physic under the doctor's tuition. It is frequently the case, that one or more of the medical officers of foreign war-vessels in port avail themselves of the gentleman's courteous invitation, and assist him in these trying and extensive labors. There is rarely any difficulty or delay in obtaining aid when operations are to be performed. Minor surgery is done on the moment at the temple; but such cases as require hospital treatment are sent to that institution, provided the candidate for operation can bring his bedding, fuel, and is able to buy his food.

Unfortunately, there are as yet no funds for these purposes. However, it is thought these necessaries will be supplied in the near future. Diseases of the eye and ophthalmic surgery are, by all odds, the most frequent. Dysentery, hemorrhoids, ring-worm, and syphilitic affections are very common. Few acute cases are seen, as invalids, so far as regards the immense majority, only seek foreign assistance when they have failed to find relief through their native doctors. But once they place themselves in the hands of the surgeon, any doubts or hesitation they may have had quickly vanish, and their trust in the skill and ability of the operator is implicit—they coöperating with him fully and to their uttermost. Anæsthetics are not administered, save in major operations.

The Chinese bear surgical interference markedly well. Owing to the total disregard of all hygienic and sanitary precautions and rules, it is rather marvellous that so many receive benefit from treatment; for it is difficult to imagine any people who have fewer comforts of life than do the great masses of the Chinese. Indeed, agreeably to our ideas of the necessaries of life, they have none whatever.

To return to Dr. Howard. Through the influence of Lady Li, the doctor has a part of the temple already alluded to set apart for her clinics, where aid and advice are given to the indigent women sufferers. Of course, no man is permitted to take part in these labors; although Dr. Mackenzie is occasionally called by Dr. Howard to consult as to certain special cases. A gentleman of New York has sent a considerable sum of money to Dr. Howard, to aid in building a hospital for native women; and Lady Li is coöperating in this good work. But the women of the Celestial Empire are kept so much excluded from public view and

association, that time must elapse before any great advance is made in permitting the public gathering, even for health considerations, of the female element, save among the most abject and poverty-stricken of the people, who have no position or reputation to guard or lose. It remains to be said that, so far as I am aware, the Chinese have no eleemosynary institutions of any description. The indigent sick receive no care or aid, save it may be from passers. As long as able they wander about, or lie in public places in hope of obtaining, now and again, some assistance from the charitably disposed. The insane are either cared for by their families or run in the streets; those too violent to be left thus at liberty, are put in chains and treated as, and with, malefactors. There are to be seen in the great city of Tien Tsin, hosts of the sick, the poor, the demented and crippled, each winter with Fahrenheit's glass standing below zero, without clothing, save, at times, a fragment of an old carpet, bag, or like covering. Shelter they have none, if we except an upturned cart, or the lee of some building or fence; and apparently they have been long without food—thus being at once among the most abject and miserable of beings. In all the important foreign settlements are to be found, however, dispensaries, and in some hospitals, into which are received many of these unfortunate people; and the various missions aid and supply the wants of the sick where it is practicable to do so.

VIATOR.

NEWS ITEMS.

CHICAGO.

(From our Special Correspondent.)

FATTY CRYSTALS.—In a former number allusion was made to the medical expert testimony in the lard investigation before the Chicago Board of Trade. Under the microscopical evidence for the defence, it was stated that Dr. W. T. Belfield was the discoverer of the crystals characteristic of lard and tallow. Facts, entirely new to us, having very recently come to light, the following statement with reference to the first recognition of these crystals is rendered necessary in justice to the real discoverers and to Dr. W. T. Belfield:

In July, 1881, Dr. B. P. Rose was retained by Messrs. Fowler Bros., to investigate the subject of lard and its adulterations from a chemical standpoint. In January, 1882, Dr. I. N. Danforth was requested by Prof. N. Gray Bartlett, of the College of Pharmacy, to make a microscopical examination of the same subject. The attention of both gentlemen was directed to finding crystals characteristic of pure hog fat and its adulterations. Dr. Rose removed the olein from the specimens examined, by means of absolute alcohol or ether, dissolved the residuum in turpentine or other members of the balsamic series, and, from the slow evaporation of such menstrua, recovered the rhomboidal plates with bevelled edges, the crystals now regarded as characteristic of hog stearin.

Dr. Danforth, after the removal of the olein, employed ether as a solvent of the residual stearin, obtained the lard crystals previously recognized by Dr. Rose, and, in addition, made the important discovery of the acicular, rosette crystals now believed to be characteristic of beef stearin.

The observations and experiments of Drs. Rose and Danforth were confirmed by Dr. P. S. Hayes and Dr. S. J. Holmes in January, 1882.

It is plain from this survey of the facts in the case that the credit of the discovery of the rhomboidal plates, with bevelled edges, characteristic of hog stearin, belongs to Dr. Rose; while Dr. Danforth must

be credited with the first recognition of the acicular, rosette crystals characteristic of beef stearin.

Dr. W. T. Belfield applied the processes of Drs. Rose and Danforth and took the excellent micro-photographs of the crystals, which were presented for inspection to the members of the Board of Trade. The statements, published by various misinformed individuals, that cuts of lard and tallow crystals, as such, occur in the works of Husson and Gamgee, are entirely erroneous.

LIGATION OF THE OVARIES.—Dr. E. C. Dudley, Professor of Gynecology in the Chicago Medical College, has been engaged, for some time past, in experimental inquiry as to the effect of ligation of both ovaries in the lower animals. Up to the present time he has experimented solely upon dogs. The abdominal cavity is opened by an incision in the median line and both ovaries are secured by ligatures passed around their peritoneal attachments, without inclusion of the Fallopian tubes. No untoward symptoms have been observed after the operation. As was to have been expected in dogs, no peritonitis has ever resulted, and the abdominal incision has always healed by first intention. At the termination of various intervals the dogs are killed, and the ovaries examined. In every case the ovaries have been found to be greatly atrophied. After ligation, the ovary is in very much the condition of the pedicle of an ovarian tumor. It does not slough, but a collateral circulation is promptly established, which prevents gangrene. The nervous connections of the organ are completely interrupted. The constitutional effect of this interruption of the channels of nervous communication has not been observed fully as yet, but will constitute a future study. It is possible that a "collateral" nervous connection may be ultimately established. The effect upon menstruation has not been determined, but will receive due attention in the progress of the research. The objective point of these experiments is very evidently an important modification of Battey's operation.

FREUND'S OPERATION.—Dr. Roswell Park performed Freund's operation of total extirpation of the uterus upon a woman, suffering from scirrhus carcinoma of the collum uteri, ten days ago. A small parovarian cyst was found upon the right side, and was also removed. The woman died seventy-two hours after the operation, probably of pyæmia. Bichloride of methylene was employed as the anæsthetic. The autopsy revealed a slight peritonitis, but no hemorrhage.

BERLIN.

(From our Special Correspondent.)

THE TUBERCULOSIS QUESTION AND THE ARMY.—Last year the medical department of the Ministry for War issued a circular urging upon the medical officers with the army to give the utmost attention to beginning tuberculosis among recruits, and, as far as possible, not to enroll suspected individuals at all, or, if enrolled, to dismiss them from the service in the earliest stages of the disease. Hospital patients suffering from unquestionable tuberculous affections are to be isolated, and their sputa are to be disinfected.

It is firmly hoped that the death-rate from tuberculosis, already diminished to 3.8 per thousand (see official report for 1879-80) by the sanitary improvement of barracks and hospitals, may thus be reduced to its lowest possible degree. In relation to this question, the microscopic examination of the sputa lately has become of the greatest importance; therefore, first-rate microscopes recently were distributed among all the larger garrison hospitals, in order to facilitate an early diagnosis.

Prof. Fræntzel (who is also an active army surgeon), in a paper read before the Berlin Military Medical Society, highly congratulated the medical authorities of the War Department upon this step, which he thinks will be of great benefit to the army. He said he was proud to claim the priority among German clinical teachers in having unhesitatingly adopted the germ theory of tuberculosis, and scrupulously applied its logical deductions to clinical practice. Continued researches, now comprising upwards of five hundred cases, served to confirm his former views and statements about the diagnostic and prognostic value of the tubercle-bacilli found in the sputum (see *Berliner klin. Wochenschrift*, 1882, No. 45, and *Deutsche med. Wochenschrift*, 1883, No. 17).

As for treatment, a series of careful experiments, made under the regular control of Koch and Goffky, have taught him the inefficacy of all inhalation methods. It seems as if the medicaments employed in this way do not reach the diseased parts of the lungs, since even those which proved to be the strongest poisons against pure cultures did not in the least diminish the number of the tubercle-bacilli in the sputum. On the other hand, he rejects as useless and rather cruel the direct application of strong antibacteric solutions (bichloride of mercury!) to the lung-tissue, as recently performed by means of a Pravatz syringe in some clinical wards. So we find ourselves restricted to internal medication, and must try to overcome the enemy in that way. Till now, Fræntzel ascribes the best results to the creasote treatment, after the formula of Bouthard and Gimbert, which he adopted a couple of years before the germ theory (see *Charité-Annalen*, iv., 1879, p. 278).

LESSER'S ATLAS OF FORENSIC MEDICINE.—Forensic medicine in some way may be called the mother of pathological anatomy; but there is no doubt that during the rapid progress of the latter in the middle of this century the mother proved somewhat jealous of her own child. To-day this jealousy has subsided, and forensic anatomy, much to its own great benefit, has undergone a process of regeneration on the broad basis of pathological knowledge. This knowledge, of course, should be gained by earnest practical work in the dissection-room; nevertheless, the State physician, even if he be the best pathologist, will often find himself at a loss in face of those rare occurrences which are peculiar to forensic practice. This gap can solely be filled up by pictorial works representing the characteristic changes caused by those properly forensic emergencies, as poisoning, hanging, drowning, etc.

A modern standard work of this kind till now was wanting, at least, in Germany, the older ones, especially that of Casper, exhibiting only a few specimens from an obsolete point of view, and with very poor technical means. In a lucky appreciation of this want, six years ago, Dr. Adolf Lesser, then a young assistant to the Institute of State Medicine, in Berlin, after having well trained himself in pathological anatomy under the very eyes of Virchow, undertook to describe and have painted every characteristic specimen which happened to be observed in the ample forensic practice of the metropolis. For this purpose, he allied himself with a well-gifted artist, a pupil of A. v. Werner, whose school mainly excels in coloring. Color, indeed, is of the highest diagnostic value in forensic practice; sometimes color alone will tell us if a change is due to inflammation or to putrefaction; color will teach us, earlier than chemical inquiry, if the blood be changed by some gaseous poison; color will guide us in the differential diagnosis between a chronic and an acute abscess or hemorrhagic focus in the brain.

The fruit of these combined efforts of art and science is now lying before us. Lesser's *Atlas der gericht-*

lichen Medicin (Berlin, A. Hirschwald) may indeed be called a standard work, which fairly rivals the great atlases of Bright and Cruveilhier, and possesses the advantage that the highly finished technique in color-printing has succeeded in multiplying the plates in a quite unprecedented perfection. Perhaps the best recommendation is given by the preface, written by Virchow himself, who "can say, without exaggeration, that better colored plates hardly exist in pathological literature."

The first and second fasciculi, now ready, contain six plates each, with thirty-two figures, representing the macroscopic and partly the microscopic changes caused in the oesophagus and stomach by a long series of different poisons, as carbolic acid, nitric, sulphuric, oxalic acid, hydrate of sodium, bichlorate of mercury, camphor, phosphorus, prussic acid. Plates XI. and XII. exhibit some rare idiopathic changes, which might erroneously be taken for cases of poisoning. The text gives the exact pathological and forensic history of each case. The whole work will contain thirty-five folio plates, and will constitute an extremely valuable addition to our literature.

THE CHOLERA IN EGYPT.—The general cholera mortality rate has diminished during the past week. The disease appears to be dying out at Cairo, but remains about stationary in Alexandria. The mortality for all Egypt has markedly fallen.

The official returns of cholera deaths are as follows:

	Cairo.	Alexandria.	Total for Egypt.
August 14.	9	40	376
" 15.	5	..	467
" 16.	6	44	433
" 17.	..	41	..
" 18.	5	50	310
" 19.	4	32	182
" 20.	3	43	193

On August 14th fifty-five deaths were reported at Damanhoor.

The total number of deaths from cholera among the British troops in Egypt since the outbreak of the disease to date is 140.

On the 16th the Khedive again visited the cholera hospitals at Alexandria and spoke words of encouragement to the patients.

M. PASTEUR'S MISSION.—The French cholera mission, under M. Pasteur, arrived at Alexandria on the 16th.

CHOLERA IN INDIA.—Two hundred and twenty deaths from cholera in Bombay were reported on the 17th as having occurred during the preceding fortnight.

CHOLERA IN SYRIA.—On August 19th another death from cholera was reported at Beyrouth.

CHOLERA PRECAUTIONS IN VIENNA.—The Vienna Board of Health has instituted a thorough system for the immediate cleaning and ventilation of overcrowded houses, flushing of the sewers, analysis of drinking water, and purification of the city atmosphere. The City Physician of Vienna has also commenced the personal inspection and ventilation of lodging houses, and given orders for the sorting and disposal of animal refuse, skins, bones, feathers, rags, etc., in the neighborhood of dwelling rooms.

YELLOW FEVER AT PENSACOLA.—Yellow fever has broken out at the U. S. Navy Yard at Pensacola. Surgeon A. M. Owen, U. S. N., in charge of the Medical

Department of the Naval Station, Pensacola, under date of August 16th, advised Surgeon-General Wales, U. S. N., as follows:

" I have to report the appearance of yellow fever among the marine guard of this station. I have two well-marked cases now in the Naval Hospital, and other cases of fever of a suspicious character. And I beg to put on record, that I believe there are, from general rumors, sufferers with the said disease among the residents of the reserve."

The Secretary of the Navy also received a telegram from Commander Welch, commanding the Navy Yard, Pensacola, as follows: "Surgeon Owen reports a case of yellow fever in the Marine Guard; man is in hospital this evening; moved the quarter to second story of building. Relieved guard, numbering thirty-eight men, from all duty in order to isolate them from other persons. Surgeon Owen recommends transfer of guard North as soon as possible. The case was decided last evening. Two other men sent to hospital to-day. Cases not decided."

Instructions were telegraphed to Commander Welch to transfer the Marine Guard to Cape Anson, six miles from the Navy Yard, and to make all the sanitary arrangements necessary for the health of the yard. Orders were also issued to Surgeon Martin, at New Orleans, to proceed to Pensacola and render all assistance in his power.

On August 17th, Surgeon Martin arrived and took general charge of the hospital, and Dr. Harges at the yard. The Department was informed of Surgeon Owen's illness with the fever, and of the death of the first case reported, and that the Naval Station had been quarantined by Pensacola since noon of the 16th.

It appears that on the 16th Surgeon-General Hamilton received a telegram from the President of the Board of Health of Pensacola, requesting aid to establish a cordon around the Navy Yard. The Collector of Customs at Pensacola, was immediately directed by the Acting Secretary of the Treasury to employ ten patrolmen to aid the Board of Health in maintaining quarantine. The Collector on the night of the 17th, reported that forty men would be required for the service, as the patrol line was five miles in length. Surgeon-General Hamilton, with the approval of Acting Secretary French, on the following day telegraphed to the Collector of the Port, that on the filing of an affidavit by the Mayor of the city and the President of the Board of Health, that they are unable to employ a sufficient quarantine force, to employ as many patrolmen as necessary. The affidavits were duly filed, and the patrol was placed on duty on the evening of the 18th.

On August 19th, the Department was notified of the existence at the Navy Yard of six cases, including Dr. Owen's child, and of one death from the disease on the 17th.

On the 20th, Surgeon-General Hamilton of the Marine-Hospital Service was informed by telegraph by Surgeon White, at Pensacola, that no new cases had developed at the Navy Yard during the preceding forty-eight hours; that up to date there had been eight cases and three deaths, and that the fever was confined to the yard and hospital.

Surgeon Owen is reported to be in a critical condition.

YELLOW FEVER IN HAVANA.—There were forty deaths at Havana from yellow fever, for the week ending August 18th.

INVESTIGATION OF YELLOW FEVER.—The Brazilian government has appointed DR. DOMINGO FREIRE to investigate the causes of yellow fever, and study the

following points: 1. Microscopic observations, and cultivation of the microbes already found. 2. Attenuation of the virulence of these microbes, and experimental inoculation of animals, with a view to, if practicable, human inoculation. 3. Action of salicylate of soda in the treatment, both hypodermatically and by mouth. 4. Autopsies for the purpose of determining the true pathological lesions of the disease. All the necessary instruments and apparatus will be furnished him, with three assistants.

SMALLPOX IN NEW ORLEANS.—There were sixteen deaths in New Orleans from smallpox for the week ending August 11.

PLEURO-PNEUMONIA IN CONNECTICUT.—The following is a copy of the report received at the Treasury Department concerning the outbreak of pleuro-pneumonia in Connecticut:

UNITED STATES TREASURY CATTLE COMMISSION,
West Newton, Mass., August 16, 1883.

HON. H. F. FRENCH,
Assistant Secretary of Treasury, Washington, D.C.

SIR: I have to report an outbreak of lung plague in the town of Salem, State of Connecticut. On the 16th of April last a cow was purchased by H. E. Williams, of Salem, in Jersey City, near Hoboken ferry, of a man named Durham. Early in July a disease appeared among the cattle owned by Mr. Williams, three of which died or were killed by the owner. The lungs were examined by Prof. Leantarel, American Veterinary College, and by Dr. Rice, V.S., of Hartford, Conn., who pronounced the disease to be lung plague. By request of the State Cattle Commissioners, I visited the farm of Mr. Williams on Tuesday, the 14th inst. Of the remaining animals of the herd, three are affected with lung disease in the chronic form, the form has not fully passed through the acute stage of the disease. An adjacent farm is owned by Captain Leaman, who has a large herd of cattle, one of which has died. Both herds are in quarantine, by order of the State Commissioners, who appreciate the importance of preventing the spread of the disease, and, having full authority, will doubtless prevent its further extension.

Very respectfully,

E. F. THAYER.

The Treasury Department feels no apprehension as to the spread of the disease beyond its present locality. Whether the cow brought from Jersey City came from a herd recently imported is not known at the Treasury Department. Salem county is in the southern part of the State, about twenty miles from Long Island Sound.

THE NEED OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE.—At the meeting of the American Library Association held at Buffalo, N. Y., August 14th to 17th, the condition and needs of the Washington libraries were considered, and resolutions were unanimously adopted to the effect that it is the opinion of the Association that a suitable building for the accommodation of the National Library, and also a separate fireproof building for the Medical Library and Museum of the Surgeon-General's Office should be built as soon as possible, and that the Executive Committee shall prepare a memorial to Congress, setting forth the necessity for these buildings, and offering in behalf of the Association any information on the subject which may be desired, and which they are able to furnish.

INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE.—We learn that the fourth volume of the *Index Catalogue* is now in the hands of the binder, and will be ready for distribution by the end of the month. It carries the work to *Fiz.* The

appropriation for this work will be exhausted with the fifth volume, and, unless Congress makes an appropriation for completing it, the publication will cease.

TRI-STATE MEDICAL ASSOCIATION.—The ninth annual meeting of the Tri-State Medical Association, will be held in Indianapolis, on September 18th, 19th, and 20th, 1883.

VIRGINIA STATE MEDICAL SOCIETY.—The fourteenth annual meeting of the Virginia State Medical Society, will be held at the Rockbridge Alum Springs, on September 4th, 5th, and 6th, 1883. The Address will be delivered by J. Edgar Chancellor, M.D., of Charlottesville, Va. The President, Wm. D. Cooper, M.D., of Morrisville, will deliver his Address on Wednesday, September 6th. A number of interesting papers will be read. A large attendance is expected, owing in great part to the liberality of the proprietor of the Rockbridge Alum Springs, who makes no charges to Fellows and Delegates.

DR. FLINT AT THE DINNER OF THE BRITISH MEDICAL ASSOCIATION.—DR. AUSTIN FLINT, in proposing the toast of the "British Medical Association," said he desired to express his thanks for the honor of the invitation to attend the fifty-first meeting of the Association, and to participate in some small degree in the sectional work. He could not adequately express the satisfaction he had derived from his attendance. Having reached a period of life when happiness was derived from retrospection rather than from anticipation, so far as the present life was concerned, he desired to say that the social and professional events of that meeting would ever hold a prominent place in his memory. His official connection with the American Medical Association rendered it proper for him to state that, for the most part, American institutions—political, literary, educational, and philanthropic—were based on their knowledge of the institutions of Great Britain, which the Americans rejoiced in calling their "mother country." The American Medical Association was modelled closely upon the British Medical Association; and, in view of a relation which he might venture to call maternal, he was sure they would be gratified to know that the transatlantic daughter was zealously and dutifully striving to follow, at a respectful distance, in the footsteps of an honored mother. As an evidence of the alacrity with which the institutions of the old were introduced in the new world, he might mention that the British Medical Association in age exceeded that of the American Medical Association by only fifteen years. It had always appeared to him that it must be a pleasing reflection to Englishmen that the English language was, as no doubt it would be for all time, the language of the vast continent of North America. English literature was American, and the proceedings of the British Medical Association commanded hardly less interest in the new than in the old world. He would even venture to state that there was not hamlet, within the limits of the United States, so distant or so obscure, that the report of the proceedings of the British Medical Association would not be speedily conveyed to it by the *British Medical Journal* and the medical press generally.

MR. ERNEST HART, in proposing the "Guests," said that they cordially welcomed among them the physicians of America, France, Germany, and their guests from Holland and other countries. Americans they regarded not only as brothers in the profession, but as kinsmen in blood who shared with them the common heritage of history, literature, and science. They were honored by the presence of the President of the American Medical Association, who was so much one

of them that they had not put down his name to answer for the toast, but they had assigned that duty to Prof. Tilanus, of Amsterdam, who bore a name which was honored throughout his country, and had been honored for generations.

HOW THEY DEAL WITH QUACKS IN ILLINOIS.—A travelling "Indian Medicine Man," Lightfall, by name, but known as "Kansas Jim;" recently started business in Decatur, Illinois, and by the aid of a concert troupe, an Indian outfit and other claptrap devices, he, for a short time, did a thriving business pulling teeth and selling "cure-all remedies," the secret of whose preparation he claimed to have obtained from the Indians. Among his attendants was a certain Dr. W. O. Davis, of Peoria, to whom the State Board of Health granted a certificate last April, on the strength of a medical diploma, and under cover of which certificate Lightfall was trying to shield himself from the law.

After fleecing the credulous for a time unmolested, the citizens of Decatur concluded to put a stop to his swindling, and accordingly complained to the State Board concerning Davis, and at the same time caused the arrest of "Kansas Jim" for violating the Medical Practice Act. The State Board promptly revoked Davis' certificate, but "Kansas Jim" had his case taken before a Justice of the Peace and so escaped for the time being. Emboldened by this, he announced his intention of transferring his circus to Springfield, and opening "right under the nose of the State Board of Health." By advice of the Secretary, complaint and information were filed before the County Judge of Macon County, by whom Lightfall was committed for trial under bond of \$500. Immediately after filing his bond he proceeded again with his show, but learning that another complaint had been entered against him, involving the deposit of another \$500, and that it was the intention to file a new complaint for every repetition of his swindling practice, the "Indian Medicine Man" washed off his war paint, packed up his outfit, and set out for communities where they are more tolerant of charlatans and mountebanks than they are in the State of Illinois.

NEW MEDICAL JOURNAL.—The publication of a new weekly medical journal, *la Colonie Française* has been recently begun in Valparaiso, Chili. It is published in the French language, and is the organ of the French interests of the Pacific coast.

DEATH FROM CHLOROFORM.—A case of death occurred at the Public Hospital at St. John, N. B., on August 1st. The chloroform was administered previous to extirpating the eyeball. About half an ounce of chloroform was administered. In about fifteen minutes after the first inhalation respiration became embarrassed, and then the pulse became affected, the patient became livid, and in five minutes respiration had ceased. Subcutaneous injections of brandy, ether, and a solution of strichnia, and electricity were administered, and artificial respiration practised without avail. The post-mortem examination showed a healthy condition of the organs.

A SECOND SUPRA-VAGINAL AMPUTATION OF THE UTERUS.—DR. MARGARY, surgeon to the *Ospitale Maggiore*, of Turin, performed a second supra-vaginal amputation of the uterus, by the vagina, on June 4th. Four days afterward the state of the patient was satisfactory.

PORRO OPERATIONS.—On June 28th PROF. PORRO performed a utero-ovarian Cæsarean amputation, in the Maternity at Milan, on a rachitic woman with

pelvic stenosis of the third grade, and a living child was extracted. The result as to the patient is not stated.

The patient upon whom he performed this operation on May 17th has left the hospital, having recovered.

MICROSCOPE FOR CLINICAL THERMOMETERS.—M. LÉON BLOCH has recently perfected a small microscope, to be attached to clinical thermometers, by which the scale can be easily read. The microscope is very small and easily attached by means of two small bands which slide up and down the glass.

HONORS TO DR. KOCH.—His Majesty, the King of Prussia, has graciously granted permission to DR. KOCH to wear the Commander's Cross of the Royal Spanish Catholic Order of Isabella.

HONORS TO PROFESSOR SEMMOLA.—We learn that PROF. SEMMOLA is to be decorated with the cross of the Legion of Honor. The Académie de Médecine has requested this of the Government, and it seems that the request will be cheerfully granted.

PROF. VON BUDGE.—A congratulatory address has been decreed to Prof. von Budge, of Greifswald, on the occasion of his fiftieth year jubilee.

HONORS TO PROF. VON ARLT.—On July 6th, the professors of the Vienna Medical Faculty and about two hundred of Prof. von Arlt's students tendered him an ovation. Short addresses were made by Dr. Friedinger and Student of Medicine Zinsmeister, to which the Professor replied in a happy and graceful manner. Congratulatory telegrams were sent by many of his former pupils who were unable to attend.

M. PASTEUR AND HIS WORK.—M. Pasteur is one of the few savants who have received substantial honors during their lives. On the day of the National Fête his native town of Dôle was the scene of a solemn public ceremony—the placing of a commemorative tablet on the house in which he was born. The illustrious savant was present, but his emotion so completely overpowered him that he was unable to return thanks, and his speech had to be read by his son-in-law.

The Chamber has just more than doubled his pension of 12,000 francs—making it now about £1,000 a year, with continuation to his widow and children. Lords Wolseley and Alcester may almost feel a pang of envy, but they may derive a sad consolation from the reflection that a want of grace in public acts of this sort is not confined exclusively to English assemblies. There were dissentients in the Chamber the other day—one of them a doctor, who had suggested vaccination for measles at least twenty years ago, and who seemed to think it hard that another should be rewarded for the discovery of a remedy of the same nature for a totally different disease. It was shown, however, that M. Pasteur had given his discoveries to the State, and that if he had chosen to profit by them he might easily have made a large fortune.

M. Paul Bert, his ancient rival in scientific discussion, gives a highly laudatory sketch of M. Pasteur's career of public usefulness. He began by experiments on the nature of fermentation, and his discoveries in this direction have had important practical results in the manufacture of beer and of wine. "Pasteurization" is now practised in the German breweries on a large scale. The results obtained attracted the attention of the Government, and M. Pasteur was requested to inquire into the silkworm disease, which was killing off all the silkworms of France and Italy. Till then he

had hardly seen a silkworm, but he found out what was the matter with his patient. There was a microscopic parasite in him, developed from germs in the eggs, and by selecting sound eggs healthy worms could be reared. The French silk industry was saved, or would have been, "but for the unfortunate intervention of conditions of an economic order." Then a new group of patients was brought to M. Pasteur—the sheep and oxen of France, which were dying at the rate of from fifteen to twenty-five millions yearly of anthrax. It was a microscopic nuisance again, and M. Pasteur discovered his famous method of prevention by inoculation with "attenuated" microbes. This discovery, says M. Bert, is the grandest and most fruitful of all, France now vaccinates her flocks and herds wholesale. M. Pasteur has also turned his attention to the relief of the pig by vaccination.

His discovery of a preventive treatment for anthrax was preceded by a similar discovery respecting a disease which afflicts poultry, and which is known as chicken cholera. M. Pasteur is now willing to try what he can do with the cholera in human beings; and has courageously asked the Minister of Commerce to organize a scientific mission to proceed to Egypt to study the disease there under his guidance. The stimulus to discovery in other directions has not been the least important part of M. Pasteur's work, and a crowd of his followers are now experimenting to demonstrate the parasitic origin of all infectious maladies.

According to Prof. Huxley, M. Pasteur's labors alone are equal in money value to the whole 5,000,000,000 f. of indemnity paid to Germany in the late war. Yet a member of the Assembly thought it monstrous that he should receive a pension, while he was actually selling his "vaccine" at the cost price of a penny a tube.—*The Manchester Guardian.*

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending August 11, 1883, indicate that diarrhoea has increased, and that tonsillitis, intermittent fever, remittent fever, consumption, and whooping-cough have decreased in area of prevalence.

Including reports by regular observers and by others, diphtheria was reported present during the week ending August 11, and since, at sixteen places, scarlet fever at eleven places, and measles at fourteen places.

OBITUARY RECORD.—The death of DR. JEAN BAPTISTE PETIT, Physician-in-Chief to the Asylum for the Insane at Nantes, Honorary President of the Association of Physicians of the lower Loire, Member of the Council of the General Association of Physicians of France, is announced. He was a pupil of the recently deceased Dr. Archambault, having pursued his first alienistic studies under his direction, and has filled the position left vacant by his death since 1854.

NOTES AND QUERIES.

HYSTERO-EPILEPSY.

To the Editor of THE MEDICAL NEWS.

SIR: In reply to the query of Dr. Jno. C. White, of New York, dated July 30, 1883, I can only state that I made careful inquiries concerning the boy afflicted with hystero-epilepsy, whether he was addicted to the habit of masturbation. I could not get the patient to acknowledge masturbating, nor did the parents have any suspicion in regard to it. Of course, I should have mentioned this fact in my article.

Allow me to call attention to THE MEDICAL NEWS, page 376, September 30, 1882, to a case of hystero-epilepsy in a boy, reported in the *Progres Medical* for August 26, 1882, in which the reporter calls especial attention to the fact that there was no history of masturbation.

I am, yours obediently,

E. J. KEMPF, M.D.

FERNAND, IND., AUGUST 14, 1883.

OFFICIAL LIST OF CHANGES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 13 TO AUGUST 20, 1883.

BAXTER, JEDEDIAH H., *Chief Medical Purveyor U. S. Army.*—To proceed to San Francisco, California, via St. Louis, Missouri, on public business connected with the Medical Department, and on completion thereof will return to his station.—*Par. 1, S. O. 185, A. G. O., August 11, 1883.*

BARNETT, RICHARDS, *Captain and Assistant Surgeon.*—Granted leave of absence for one month on surgeon's certificate of disability.—*Par. 2, S. O. 149, Department of the East, August 10, 1883.*

BURTON, HENRY G., *Captain and Assistant Surgeon.*—Relieved from duty at Fort A. Lincoln, D. T., and assigned to duty at Fort Assiniboine, W. T.—*Par. 1, S. O. 141, Department of Dakota, August 11, 1883.*

BENHAM, R. B., *First Lieutenant and Assistant Surgeon.*—Relieved from duty at Fort Assiniboine, W. T., and assigned to duty at Fort A. Lincoln, D. T.—*Par. 2, S. O. 141, Department of Dakota, August 11, 1883.*

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, APRIL TO JUNE 30, 1883.

BAILHACHE, P. H., *Surgeon.*—To examine officers and cadets of the Revenue Marine Service, April 2, May 28, and June 4, 1883. To proceed to New York, N. Y., to make arrangements for the care of seamen, April 30, 1883. To proceed to Chattanooga, Memphis, St. Louis, Cairo, Evansville, Louisville, Cincinnati, Galipolis, Wheeling, and Pittsburg, as Inspector, June 23, 1883.

MILLER, T. W., *Surgeon.*—Detailed as President of Board of Examiners, May 15, 1883. Detailed as member of Board for the Physical Examination of Cadets of the Revenue Marine Service, May 15, 1883.

WYMAN, WALTER, *Surgeon.*—Detailed as member of Board for the Physical Examination of Officers and Cadets of the Revenue Marine Service, May 1, 15, and 28, 1883. Detailed as member of Board of Examiners, May 15, 1883.

MURRAY, R. D., *Surgeon.*—To proceed to Pensacola, Fla., and take charge of Quarantine Service, May 21, 1883.

GASSAWAY, J. M., *Surgeon.*—Granted leave of absence for ten days, April 21, 1883. Detailed as Recorder of Board of Examiners, May 15, 1883.

SMITH, HENRY, *Surgeon.*—Granted leave of absence for thirty days on account of sickness, June 14, 1883.

FISCHER, J. C., *Passed Assistant Surgeon.*—Detailed as member of Board for the Physical Examination of Officers of the Revenue Marine Service, May 1 and June 4, 1883.

COOKE, H. P., *Passed Assistant Surgeon.*—Granted leave of absence for thirty days, May 15, 1883.

O'CONNOR, F. J., *Assistant Surgeon.*—Relieved from duty at Detroit, Mich., and assigned to temporary duty at Boston, Mass., May 10, 1883.

GUTIERAS, JOHN, *Assistant Surgeon.*—Granted leave of absence for thirty days, without pay, April 3, 1883.

ARMSTRONG, S. T., *Assistant Surgeon.*—To proceed to Memphis, Tenn., for temporary duty, May 21, 1883.

BENNET, P. H., *Assistant Surgeon.*—Granted leave of absence for thirty days, on account of sickness, June 26, 1883.

AMES, R. P. M., *Assistant Surgeon.*—Granted leave of absence for fourteen days, April 3, 1883.

DEVAN, S. C., *Assistant Surgeon.*—Detailed as medical officer of Revenue Steamer "Corwin" during cruise in Alaskan waters, April 16, 1883.

BEVAN, A. D., *Assistant Surgeon.*—To proceed to Detroit, Mich., for temporary duty, June 11, 1883.

GLENNAN, A. H., *Assistant Surgeon.*—To proceed to Norfolk, Va., for temporary duty, June 26, 1883.

APPOINTMENTS.

The following candidates, having passed the examination required by the regulations, were appointed Assistant Surgeons by the Secretary of the Treasury, June 6, 1883:

ARTHUR D. BEVAN, M.D., of Illinois, and

ARTHUR H. GLENNAN, M.D., of the District of Columbia.